# FOURTEENTH
# ANNUAL REPORT
# ON THE CONDITION
# OF THE
# COMBINED SANITARY DISTRICT
# OF
# WEST SUSSEX.

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Horsham ........... 25
Petworth ......... 41
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# FOURTEENTH ANNUAL REPORT

ON THE

HEALTH OF THE COMBINED SANITARY DISTRICT
OF WEST SUSSEX.

## RURAL SANITARY DISTRICT OF STEYNING.

Population, 14,060 in 1871; 16,325 in 1881. Area in Acres, 45,969. No. Houses, 2659 in 1871; 3080 in 1881.

Population: There has been an increase in Aldrington during the past year, but in the other parishes the numbers have undergone very slight alteration; in many of the rural parishes the population seems to be stationary.

During the year 1887 the births of 470 children and the deaths of 252 persons were registered; of the births, 252 were male and 218 were female; of the deaths, 141 were male and 111 were female.

There were only 243 deaths registered in the rural sanitary district, but to this number must be added the deaths of nine persons in New Shoreham Workhouse. The deaths in the Workhouse have been distributed among the several parishes whence each person came viz:—Patcham 1, Portslade 1, Southwick 1, Steyning 3, Henfield 3, in all—9.

In each parish the deaths were thus distributed:—Preston 0, Patcham 8, West Blatchington 2, Hangleton 2, Portslade 59, Aldrington 23, Southwick 39, Kingston 3, Lancing 19, Old Shoreham 5, Sompting 8, Coombes 0, Botolphs 0, Bramber 5, Steyning 27, Upper Beeding 6, Edburton 2, Poynings 3, Woodmancote 2, Henfield 28, Ashurst 7, Shermanbury 4, in all—252.

During the past ten years there have been in this district 5238 births and 2475 deaths, so that the natural increase of the population during this period by excess of births over deaths is, therefore, 2763. The births are more than twice as numerous as the deaths. The birth-rate, which has been declining since 1882, was lower in 1887 than in any previous year.

The death-rate was the lowest since 1881, and it was much lower than the average for the past decade.

The births and deaths in the whole of the district during the past ten years have been as follows:—

| Year. | | Births. | Birth-rate. | Deaths. | Death-rate. |
|---|---|---|---|---|---|
| 1878 | .. | 513 | 33·0 | 243 | 15 6 |
| 1879 | .. | 499 | 31·6 | 196 | 12·4 |
| 1880 | .. | 546 | 34·1 | 243 | 15·2 |
| 1881 | .. | 544 | 33·3 | 197 | 12·0 |
| 1882 | .. | 582 | 34·8 | 251 | 15·0 |
| 1883 | .. | 528 | 31·0 | 279 | 16·4 |
| 1884 | .. | 519 | 29·0 | 263 | 14·7 |
| 1885 | .. | 524 | 28·8 | 260 | 14·3 |
| 1886 | .. | 513 | 28·0 | 291 | 15·9 |
| 1887 | .. | 470 | 25·5 | 252 | 13·6 |

In each quarter the births and deaths were as follows:—

| | | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|---|
| | | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter | .. | 70 | 56 | 126 | 28 | 29 | 57 |
| 2nd ,, | .. | 64 | 53 | 117 | 39 | 26 | 65 |
| 3rd ,, | .. | 71 | 61 | 132 | 36 | 31 | 67 |
| 4th ,, | .. | 47 | 48 | 95 | 38 | 25 | 63 |
| Total | | 252 | 218 | 470 | 141 | 111 | 252 |

The births in each quarter seem to be equally distributed when the mean of the past nine years is taken:—

| | | 1879-84. | 1885. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|---|---|
| 1st Quarter | .. | 807 | 143 | 123 | 126 | 1199 | 133 |
| 2nd ,, | .. | 811 | 126 | 159 | 117 | 1213 | 135 |
| 3rd ,, | .. | 805 | 132 | 100 | 132 | 1169 | 130 |
| 4th ,, | .. | 795 | 123 | 131 | 95 | 1144 | 127 |
| Total | | 3218 | 524 | 513 | 470 | 4725 | 525 |

The following table shows the birth-rate in the more important parishes and in the rest of the district for a period of ten years:—

| | | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|---|
| Portslade Parish | .. | 39·9 | 36·6 | 29·8 | 38·6 |
| Southwick Parish | .. | 33·3 | 30·1 | 32·4 | 32·9 |
| Rest of Shoreham S.D. | | 26·9 | 22·6 | 21·8 | 25·9 |
| Steyning Parish | .. | 29·8 | 34·1 | 20·6 | 29·3 |
| Henfield Parish | .. | 28·6 | 22·6 | 29·5 | 28·3 |
| Rest of Steyning S.D. | .. | 31·2 | 23·6 | 20·1 | 29 4 |
| Total | .. | 32·0 | 28·0 | 25·5 | 30·9 |

The *birth-rate* in England and Wales in 1887 was 31·4 ; it was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2·6 below the mean annual rate in the ten years, 1877-86.

The deaths at different groups of ages in each quarter are here shown :--

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 13 | 6 | 6 | 2 | 13 | 17 | 57 |
| 2nd ,, .. | 8 | 3 | 2 | 6 | 20 | 26 | 65 |
| 3rd ,, .. | 18 | 4 | 4 | 2 | 15 | 24 | 67 |
| 4th ,, .. | 6 | 4 | 5 | 6 | 16 | 26 | 63 |
| Total | 45 | 17 | 17 | 16 | 64 | 93 | 252 |

As compared with previous years, there was a marked lowering of the death-rate amongst children under five years of age; at all the other ages the numbers were much about the average.

The 45 *infantile* deaths in 1887 included twelve from diarrhœa, one from erysipelas, two from disease of the brain, five from convulsions, one from heart disease, six from lung disease, one from malformation, and five from debility ; seven infants were born prematurely, one was accidentally suffocated in bed, one death was registered as due to teething, and three infants died from natural causes.

The deaths from *zymotic* disorders were 27 in number against 35, 12, 46, 17, 50, 46, 44, 36 and 41 in the nine preceding years. These 27 deaths included one from scarlatina, two from diphtheria, two from typhus fever, three from enteric fever, sixteen from diarrhœa, one from erysipelas, and two from pyæmia.

The rate of mortality from these disorders was 1·4 per 1000 persons living, against a rate of 2·2, 0·7, 2·8, 1·0, 3·0, 2·7, 2·4, 1 9 and 2·2 in the nine preceding years.

In the past ten years there have been altogether 354 deaths from this class of disorders, or a mean annual rate of 2·0 per 1000 persons living.

There was no outbreak of an epidemic character during the year. There were no deaths from *small-pox*, *measles*, or *whooping-cough*, and there was only one death from *scarlet fever*.

Two deaths were registered in the same house at Southwick as due to *typhus fever*. The first case was that of a young gardener, 19 years of age, who lived at Worthing. On July 22nd, while weeding flower beds, he felt the heat very much, and had to leave off work ; from this time he became worse, and on July 31st he was removed to his parents' home at Southwick, and he died on August 10th. There was no rash. The cottage was disinfected, but there were no sanitary defects in it, and there were no occupants beside the parents. The mother, who was much affected by her son's death, fell ill early in September, and after three or four day's illness, she died on September 6th. In this case also there was no rash; there were no other cases.

*Enteric fever* caused three deaths. 1st. a boy, 10 years old, died at Portslade from this disease on January 12th. Previous to this, the mother had had this disorder in October, 1886, and the three youngest children, of whom the deceased was one, were then sent away to a relation at Aldrington. The mother recovered, and after the house had been fumigated, the children returned, but on December 20th this boy fell ill and died after three weeks' illness. There were no other cases.

2nd. a young woman, 18 years of age, living in service at Arundel, was taken ill on September 20th. She went home by rail on September 23rd., reaching her parents' house in an exhausted condition, and she died on October 1st. In this house, which was large, roomy and clean, there lived the parents and four children from five to fourteen years of age, but there was no spread of the disease. The house at Arundel, whence the patient came, was clean and free from sanitary defects, nor were there any other cases of this disease at the time in that town.

3rd. A girl, 11 years of age, died at Portslade on September 8th from this disorder, but there were no other cases in the house.

There was no connection between any of these three cases. and the cause in each case was not obvious, for many others lived under similar conditions and yet remained in good health, Portslade is the largest place in the district, but although it consists chiefly of houses occupied by poor people living in a crowded manner, there is no special prevalence of enteric fever. The water-supply is very good, and the houses have no drains within the building, so that the rooms, although small and close, are not contaminated with drain air. In nearly every case, too, the closets are outside the house, but there is no proper ventilation of the soil-pipe, or disconnection of the house drain from the cesspool. The evils of this cesspool system have often been pointed out, but there does not seem to be any desire at present for any good system of drainage.

*Scarlet Fever* appeared in various parts of the district in a very mild form, and it did not spread in the usual way. Many children were not attended by any medical man; one death at Portslade registered as due to diphtheria, was probably due to scarlet fever, as the child before death had a rash on the skin, and another child in the same house had scarlet fever at the same time.

*Diphtheria* was nearly absent from the district. Besides the death above mentioned, there was one at Henfield in a house situated in an exposed spot and in a clean condition.

Three children came from Brighton on a visit to this house on

August 4th; one of them, a girl, 5 years old, fell ill on August 16th, and she died on August 21st. The house was fumigated, and there were no other cases.

The following summary shows the Death-rate from various causes during three decades.

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1878-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1597 | 1614 | 1454 |
| Zymotic ,, ......... | 326 | 342 | 208 |
| Phthisis ,, ......... | 197 } 386 | 201 } 393 | 150 } 350 |
| Lung Disease ......... | 189 | 192 | 200 |
| 15 *to* 55 *years.* | | | |
| Phthisis Death-rate ......... | 295 mean<br>304 female | 288 mean<br>309 female | 243 mean<br>280 female |
| Lung Disease Death-rate ... | 68 mean<br>50 female | 60 mean<br>39 female | 45 mean<br>30 female |
| Under 1 year .................. | 14101 | 14543 | 10300 |
| Under 5 years ........ ...... | 4826 | 5035 | 3466 |

The phthisis death-rate at all ages was lowest in the last decade, but the lung-disease death-rate is slightly higher; taken together, the rates in recent years are distinctly lower.

Taking the deaths from the same diseases which occurred between 15 and 55 years of age a similar improvement may be noticed.

This district contains much variety of soil, and in the following table an attempt is made to see what effects the nature of the soil has on the death-rate from phthisis, lung-disease and diphtheria. The deaths are taken out from the registers for the ten years 1876-85, so that the middle of the period coincides as nearly as possible with the census year, 1881. The deaths in public institutions are distributed in the various parishes whence each inmate came. Under *pervious* soils are placed the Chalk, Upper and Lower Greensand, and Lower Tunbridge Wells sands. Under *retentive* soils are placed the Weald Clay, the Gault and and the clayey beds of the Lower Greensand. Between these two divisions there is a level plain between the South Downs and the sea, stretching from Aldrington on the east to Westbourne on the west of the Combined District. This piece of land slopes gently from north to south, so that it is well drained, and it receives more sunshine than the rest of the district.

In very wet seasons the wells are full, and water may be obtained within two or three feet of the surface, but as a general rule, the water is found at a distance of from fifteen to twenty-five feet in depth. This underground water is always running towards the sea in a direction as a rule from north-west to south-east, so that the ground does not become cold and waterlogged as in the clay districts.

This soil is formed chiefly of loamy clay or brick earth resting on the chalk, and it may be called *moderately pervious.* The results from this method of classifying the deaths will be given in the General Report.

| SOIL. | Population in middle of the period. | Death-rate per 100,000 living from Phthisis. | Lung-disease. | Diphtheria |
|---|---|---|---|---|
| Pervious .. | 7311 | 1833 | 1969 | 96 |
| Moderately pervious | 7775 | 1466 | 1993 | 257 |
| Retentive .. | 1239 | 1210 | 2177 | 1210 |
| Total .. | 16325 | 1611 | 1997 | 257 |

*Inquests* were held in twenty-two cases:—Female, 4 years, shock from burns; male, 34 years, found drowned; male, 22 months, convulsions; male, 33 years, found drowned; male, 1 day, suffocated in bed; female, 4 months, inflammation of pericardium; female, 3 months, congestion of lungs; male, 56 years, suicide by hanging; male, 21 years, suicide by shooting; male, 50 years, natural causes; male, 11 years, found drowned; male, 53 years, accidentally run over; male, 29 years, congestion of brain; female, 70 years, heart disease; male, 74 years, syncope; male, 6 months, effusion on brain; female, 53 years, exposure to cold; female, 60 years, found drowned; male, 22 years, buried under a fall of earth; female, 12 years, accidentally burnt; female, 51 years, found drowned; female, 9 years, epilepsy.

Three inquests were held in Steyning sub-district and nineteen in Shoreham sub-district.

There were no deaths returned as "not certified" in Steyning sub-district, but there were three deaths so recorded in Shoreham sub-district:—Male, 3 minutes, convulsions; male, 10 minutes, premature birth; female, 3 days, convulsions.

In Steyning sub-district there were no deaths of any children born out of wedlock. The returns from Shoreham sub-district give no information on this point.

### COWSHEDS AND DAIRIES.

These have been regularly inspected during the year. There was one at Portslade which was in a very confined situation, badly lighted and badly ventilated, The occupier had notice to give up this cowshed, and he has since obtained a better site for carrying on his trade, so that the nuisance will be abated without injury to the man's business.

## PROCEEDINGS BEFORE THE MAGISTRATES.

An owner of a cottage was summoned on August 10th before the Hove Bench of Magistrates for infringing a building by-law, by causing the house to be occupied before it had been approved by the Surveyor. He was fined 10s. and 12s. costs,

A few cases of overcrowding have been dealt with during the year, and the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses have been inspected at intervals and they have been kept in a cleanly state.

The slaughter-houses have been well kept.

There is no common lodging-house in the district.

# STEYNING RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 .................... | 243 | 60 | 35 | 8 | 11 | 49 | 80 |
| 1879 .................... | 196 | 41 | 18 | 6 | 10 | 53 | 68 |
| 1880 .................... | 243 | 61 | 28 | 15 | 13 | 47 | 79 |
| 1881 .................... | 197 | 48 | 14 | 3 | 10 | 44 | 78 |
| 1882 .................... | 251 | 58 | 40 | 18 | 12 | 52 | 71 |
| 1883 .................... | 279 | 58 | 33 | 21 | 21 | 66 | 80 |
| 1884 .................... | 263 | 58 | 36 | 20 | 2 | 61 | 79 |
| 1885 .................... | 260 | 57 | 34 | 8 | 12 | 55 | 94 |
| 1886 .................... | 291 | 62 | 47 | 13 | 11 | 66 | 92 |
| 1887 .................... | 252 | 45 | 17 | 17 | 16 | 64 | 93 |
| Total.................... | 2475 | 548 | 302 | 129 | 125 | 557 | 814 |
| In 10,000 Deaths...... | 1000 | 222 | 122 | 52 | 50 | 225 | 329 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | ... | 1 | ... | 2 | 11 | 2 | ... | ... | 16 | ... | 1 | ... | 2 | 35 | 2·2 |
| 1879 | ... | ... | 1 | 1 | 2 | ... | 3 | 1 | 1 | ... | 2 | 1 | ... | 12 | 0·7 |
| 1880 | ... | 8 | ... | ... | 12 | ... | 3 | ... | 20 | ... | 1 | ... | 2 | 46 | 2·8 |
| 1881 | 1 | ... | ... | 2 | ... | ... | 4 | ... | 7 | ... | 2 | 1 | ... | 17 | 1·0 |
| 1882 | ... | 2 | 4 | 8 | 23 | ... | 3 | 2 | 6 | 1 | 1 | ... | ... | 50 | 3·0 |
| 1883 | ... | 4 | 7 | 16 | 3 | 1 | 7 | ... | 7 | 1 | ... | ... | ... | 46 | 2·7 |
| 1884 | ... | 3 | 10 | 5 | ... | ... | 6 | ... | 17 | ... | 1 | ... | 2 | 44 | 2·4 |
| 1885 | ... | 3 | 8 | 2 | 12 | 2 | 2 | ... | 5 | 1 | 1 | ... | ... | 36 | 1·9 |
| 1886 | ... | 3 | ... | 2 | 14 | 1 | 5 | ... | 13 | ... | 2 | 1 | ... | 41 | 2·2 |
| 1887 | ... | ... | 1 | 2 | ... | 2 | 3 | ... | 16 | ... | 1 | 2 | ... | 27 | 1·4 |
| Tl. | 1 | 24 | 31 | 40 | 77 | 8 | 36 | 3 | 108 | 3 | 12 | 5 | 6 | 354 | 2·0 |

## STEYNING RURAL SANITARY DISTRICT.

Table 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 10 years 1878-87.

| | Parish. | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. | | | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Typhus. | Entericor Typhoid | Other or doubtful. | | | | | | |
| Shoreham Sub-District. | Preston ............ | 100 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| | Patcham............ | 900 | ... | 1 | 1 | 1 | 1 | .. | 1 | ... | 9 | ... | 1 | ... | ... | 15 |
| | W. Blatchington.. | 60 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Hangleton ......... | 80 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| | Portslade ......... | 4100 | ... | 5 | 10 | 8 | 31 | 1 | 6 | ... | 40 | 2 | 2 | 1 | 1 | 107 |
| | Aldrington......... | 1600 | ... | 4 | 4 | ... | 2 | ... | ... | ... | 8 | ... | ... | 1 | ... | 19 |
| | Southwick ......... | 2620 | ... | 2 | 4 | 6 | 9 | 4 | 3 | ... | 19 | ... | 3 | ... | 1 | 51 |
| | Kingston ......... | 265 | ... | ... | ... | 1 | 2 | 1 | 1 | ... | ... | ... | 1 | 1 | ... | 7 |
| | Lancing ............ | 1400 | ... | 3 | ... | 5 | 5 | ... | 4 | ... | 3 | ... | 2 | ... | ... | 22 |
| | Old Shoreham ... | 250 | ... | ... | ... | 1 | ... | ... | 4 | ... | 1 | ... | 1 | ... | ... | 7 |
| | Sompting ......... | 680 | ... | ... | 4 | ... | 4 | ... | 1 | 1 | 5 | ... | ... | ... | ... | 15 |
| | Coombes............ | 70 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — |
| | Botolphs ......... | 95 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — |
| Steyning Sub-Distr. | Bramber............ | 190 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | 2 |
| | Steyning............ | 1700 | ... | 2 | 6 | ... | 7 | ... | 3 | ... | 10 | 1 | 2 | ... | ... | 31 |
| | Upper Beeding ... | 620 | ... | ... | ... | 1 | 1 | ... | 5 | 1 | 2 | ... | ... | ... | ... | 10 |
| | Edburton ......... | 350 | ... | ... | ... | ... | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | 4 |
| | Poynings ......... | 320 | ... | 2 | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | 1 | 6 |
| | Woodmancote ... | 350 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 |
| | Henfield ... ........ | 1900 | ... | 1 | ... | 17 | 6 | 1 | 4 | 1 | 3 | ... | ... | 1 | 1 | 35 |
| | Ashurst ............ | 380 | ... | 1 | ... | ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | 5 |
| | Shermanbury...... | 370 | ... | 2 | 2 | ... | 3 | 1 | 2 | ... | 1 | ... | ... | 1 | 1 | 13 |
| | | 18400 | 1 | 24 | 31 | 40 | 77 | 8 | 36 | 3 | 108 | 3 | 12 | 5 | 6 | 354 |

# STEYNING RURAL SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| Portslade Parish ...... | 3950 | 580 | 107 | 59 | 7 | 34 | 1468 | 271 | 149 | 187 | 86 |
| Southwick Parish ...... | 2538 | 370 | 51 | 36 | 50 | 25 | 1457 | 201 | 141 | 197 | 99 |
| Rest of Shoreham S.D. | 4227 | 591 | 88 | 57 | 69 | 41 | 1398 | 208 | 135 | 163 | 97 |
| Steyning Parish ...... | 1675 | 278 | 31 | 29 | 56 | 19 | 1660 | 185 | 174 | 334 | 113 |
| Henfield Parish... . ... | 1902 | 291 | 35 | 28 | 38 | 36 | 1530 | 184 | 147 | 200 | 189 |
| Rest of Steyning S. D. | 2558 | 365 | 42 | 45 | 55 | 25 | 1427 | 164 | 176 | 215 | 98 |
| Whole District ......... | 16850 | 2475 | 354 | 254 | 342 | 180 | 1454 | 208 | 150 | 200 | 105 |
| In 1878.................... | 15530 | 243 | 35 | 30 | 38 | 12 | 1564 | 225 | 194 | 244 | 77 |
| In 1879..... ............ | 15760 | 196 | 12 | 29 | 30 | 17 | 1243 | 76 | 184 | 190 | 107 |
| In 1880 . ............... | 15990 | 243 | 46 | 21 | 37 | 14 | 1519 | 287 | 131 | 231 | 87 |
| In 1881 ................. | 16325 | 197 | 17 | 14 | 19 | 16 | 1207 | 104 | 85 | 116 | 98 |
| In 1882.................. | 16700 | 251 | 50 | 25 | 20 | 18 | 1503 | 300 | 150 | 120 | 108 |
| In 1883... .............. | 17000 | 279 | 46 | 29 | 37 | 23 | 1641 | 270 | 170 | 217 | 135 |
| In 1884 .................. | 17850 | 263 | 44 | 30 | 32 | 24 | 14 73 | 246 | 168 | 179 | 134 |
| In 1885........... ..... | 18160 | 260 | 36 | 24 | 50 | 20 | 14 31 | 198 | 132 | 275 | 110 |
| In 1886....... ......... | 18300 | 291 | 41 | 30 | 41 | 19 | 15 90 | 224 | 164 | 224 | 103 |
| In 1887...... . . ...... | 18400 | 252 | 27 | 22 | 38 | 17 | 13 69 | 146 | 120 | 206 | 92 |

Table A.—Showing the Deaths during the year 1887, in the Rural Sanitar
and showing also the Population of suc

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | Population at all ages. | | Registered Births. | Mortality from all Causes at Subjoined Ages. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Census 1881 | Estimated to middle of 1887 | | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. | | Small-pox. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 |
| Portslade Parish | 3719 | 4100 | 122 | 58 | 17 | 8 | 7 | 5 | 12 | 9 | Under 5. | .... |
| | | | | | | | | | | | 5 upwds | |
| Southwick Parish | 2561 | 2620 | 85 | 38 | 13 | 2 | — | 2 | 9 | 12 | Under 5. | .... |
| | | | | | | | | | | | 5 upwds | |
| Rest of Shoreham Sub-District. | 3943 | 5500 | 120 | 69 | 12 | 2 | 4 | 1 | 27 | 23 | Under 5. | ... |
| | | | | | | | | | | | 5 upwds | |
| Steyning Parish. | 1672 | 1700 | 35 | 24 | 1 | 1 | 2 | 1 | 5 | 14 | Under 5. | .... |
| | | | | | | | | | | | 5 upwds | |
| Henfield Parish. | 1890 | 1900 | 56 | 25 | 2 | 3 | 2 | 1 | 5 | 12 | Under 5. | .... |
| | | | | | | | | | | | 5 upwds | |
| Rest of Steyning Sub-District. | 2540 | 2580 | 52 | 29 | — | 1 | 2 | 4 | 6 | 16 | Under 5. | .... |
| | | | | | | | | | | | 5 upwds | |
| | | | | | | | | | | | Under 5. | .... |
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| | | | | | | | | | | | 5 upwds | |
| | | | | | | | | | | | Under 5. | .... |
| | | | | | | | | | | | 5upwds | |
| Totals .................. | 16325 | 18400 | 470 | 243 | 45 | 17 | 17 | 14 | 64 | 86 | Under 5. | |
| | | | | | | | | | | | 5 upwds | |
| Deaths occurring outside the district among persons belonging thereto..... ..................... | | | | 9 | | | | 2 | | 7 | Under 5. | .... |
| | | | | | | | | | | | 5 upwds | |
| Deaths occurring within the District among persons not belonging thereto ...... . ......... | | | | | | | | | | | Under 5. | |
| | | | | | | | | | | | 5 upwds | |

istrict of STEYNING, classified according to **Diseases**, **Ages**, **Localities**,
ocalities, and the Births therein during the year.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| Measles. | Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Cont Fevers |  |  | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  | Typhus. | Enteric or Typhoid | Other or Doubtful |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|  |  |  |  |  |  |  |  | 6 |  |  |  |  |  |  |  | 6 | 1 | 2 | 10 |
|  | 1 | 1 |  |  |  | 2 |  |  |  |  |  |  |  |  | 6 | 1 | 3 | 1 | 18 |
|  |  |  |  |  |  |  |  | 6 |  |  |  |  |  |  |  | 1 |  |  | 8 |
|  |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  | 3 | 4 | 1 |  | 13 |
|  |  |  |  |  |  |  |  | 3 |  |  |  |  |  |  |  | 2 |  |  | 9 |
|  |  |  |  |  |  |  |  | 1 |  |  |  | 2 |  |  | 4 | 2 | 6 | 8 | 32 |
|  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  |  | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 8 | 4 |  | 9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |  |  | 3 |
|  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  | 5 | 3 | 1 | 1 | 9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |
|  |  |  |  |  |  | 1 |  |  |  |  |  |  |  |  | 2 | 6 | 1 | 1 | 17 |
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|  |  |  |  |  |  |  |  | 15 |  |  | 1 |  |  |  |  | 12 | 1 | 2 | 31 |
|  | 1 | 2 |  |  | 2 | 3 |  | 1 |  |  |  | 2 |  |  | 21 | 24 | 16 | 11 | 98 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2 |  |  | 6 |
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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table B.—Showing the New Cases of Sickness coming to the knowledge
District of STEYNING, classifie

| Names of Localities. | New Cases of Sickness in Persons Belongin | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Con |
| | | Smallpox | Measles | Scarlatina | Diphtheria | Croup (not spasmodic) | Whooping Cough | Typhus |
| 1 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Portslade Parish | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| Southwick Parish | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ......<br>1 |
| Rest of Shoreham Sub-Dis. | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| Steyning Parish | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| Henfield Parish | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| Rest of Steyning Sub-Dis. | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| Total ................... | Under 5<br>...........<br>5 upwds. | ...... | ...... | ...... | ...... | ...... | ...... | ...... |

Sources of Information: In Workhouse and Workhous
In-patients of Worthing Infirmary,

e Medical Officer of Health, during the year 1887, in the Combined Sanitary
ecording to Localities and Diseases.

| THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS E. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| vers. | | | | | | | | | |
| Typhoid 20 | Other or Doubtful 21 | Diarrhœa and Dysentery 22 | Cholera 23 | Rheumatic Fever 24 | Erysipelas 25 | Pyæmia 26 | Puerperal Fever 27 | Ague 28 | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. |
| | | | | | 1 | | | | |
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| | | 2 | | | 1 | | | | |
| 2 | | 3 | | 1 | 2 | | | | |

firmary, 42. Among the Out-door Paupers, 318.
t-patients of Worthing Infirmary, 91.

# RURAL SANITARY DISTRICT OF HORSHAM.

POPULATION, 14,131 IN 1871; 15,426 IN 1881. AEA IN ACRES, 69,706. NO. OF HOUSES, 2781 IN 1871; 3013 IN 1881.

POPULATION: This district is credited with an increase of 120 persons during the year, there being a slight increase in Horsham, West Grinstead, Ifield and Billingshurst, while the population in the other parishes seems to be stationary.

There were 28 deaths in the Horsham Workhouse, of which 11 belonged to the Horsham Urban Sanitary District, while the remaining 17 deaths have been distributed among the several parishes whence each inmate came, viz:—Horsham 1, West Grinstead 2, Shipley 2, Nuthurst 1, Lower Beeding 3, Ifield 3, Crawley 1, Rusper 1, and Billingshurst 3; in all—17.

During the year 1887 the births of 452 children and the deaths of 209 persons were registered; of the births, 231 were male and 221 were female; of the deaths, 116 were male and 93 were female.

In each parish the deaths were thus distributed:—Horsham (part of) 8, West Grinstead 18, Shipley 12, Nuthurst 12, Horsham (part of) 22, Lower Beeding 21, Ifield 32, Crawley 4, Rusper 4, Warnham 17, Slinfold 12, Itchingfield 6, Rudgwick 14, and Billingshurst 27; in all—209.

The births and deaths in the whole of the district during the past ten years have been as follows:—

| Year. | Birth. | Birth-rate. | Death. | Death-rate. |
|---|---|---|---|---|
| 1878 .. | 490 | 33·5 | 204 | 13 9 |
| 1879 .. | 499 | 33·8 | 241 | 16·3 |
| 1880 .. | 444 | 29·0 | 217 | 14·1 |
| 1881 .. | 503 | 32·4 | 197 | 12·7 |
| 1882 .. | 487 | 31·0 | 198 | 12·6 |
| 1883 .. | 480 | 30·3 | 202 | 12·7 |
| 1884 .. | 546 | 33·6 | 217 | 13·3 |
| 1885 .. | 429 | 26·1 | 228 | 13·8 |
| 1886 .. | 496 | 30·0 | 291 | 17·5 |
| 1887 .. | 452 | 27·0 | 209 | 12·5 |

In each quarter the births and deaths were as follows :—

| | | Births. | | | Deaths. | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .. | 47 | 44 | 91 | 31 | 26 | 57 |
| 2nd ,, .. | 62 | 68 | 130 | 32 | 23 | 55 |
| 3rd ,, .. | 64 | 48 | 112 | 25 | 16 | 41 |
| 4th ,, .. | 58 | 61 | 119 | 28 | 28 | 56 |
| Total | 231 | 221 | 452 | 116 | 93 | 209 |

The births appear to be most numerous in the first and third quarters of the year :—

| | 1879-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 882 | 137 | 91 | 1110 | 123·3 |
| 2nd ,, .. | 816 | 133 | 130 | 1079 | 119·9 |
| 3rd ,, .. | 877 | 122 | 112 | 1111 | 123·4 |
| 4th ,, .. | 813 | 104 | 119 | 1036 | 115·1 |
| Total | 3388 | 496 | 452 | 4336 | 481.7 |

During the past ten years there have been in this district 4826 births and 2204 deaths, so that the natural increase of the population during this period by excess of births over deaths was, therefore, 2622. The estimated increase in the population during the same period is only 2255, so that there has probably been a considerable migration into other districts. Ifield continues to increase, but in all the other parishes the population is almost stationary. It will be noticed that the births in this district during the last decade are more than twice as numerous as the deaths.

The following table shows the birth-rate in each sub-district during the past ten years, and as the populations are similar in age and occupation the rates are very uniform throughout the district :—

| | Mean of 1878-86. | 1887. | Mean. |
|---|---|---|---|
| South ub-District .. | 30·8 | 25·5 | 30·2 |
| North Sub-District .. | 31·3 | 26·9 | 30·9 |
| West ub-District .. | 30·6 | 29·0 | 30·4 |
| Total .. | 31·0 | 27·0 | 30·6 |

The *birth-rate* in England and Wales in 1887 was 31·4 ; it was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2·6 below the mean annual rate in the ten years, 1877-86.

The deaths at different groups of ages in each quarter are here shown:—

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 13 | 8 | 6 | 2 | 11 | 17 | 57 |
| 2nd ,, .. | 10 | 2 | 1 | 2 | 15 | 25 | 55 |
| 3rd ,, .. | 13 | 3 | 2 | 2 | 10 | 11 | 41 |
| 4th ,, .. | 10 | 2 | 3 | 2 | 9 | 30 | 56 |
| Total | 46 | 15 | 12 | 8 | 45 | 83 | 209 |

A comparative statement of the deaths in each quarter during the past ten years shows that the deaths are most numerous in the first and second quarters of the year.

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 451 | 94 | 57 | 602 | 60·2 |
| 2nd ,, .. | 465 | 81 | 55 | 601 | 60·1 |
| 3rd ,, .. | 406 | 56 | 41 | 503 | 50·3 |
| 4th ,, .. | 382 | 60 | 56 | 498 | 49·8 |
| Total .. | 1704 | 291 | 209 | 2204 | 220·4 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year:—

| | Births. | Deaths under 1 year. | Ratio to 1000 Births. |
|---|---|---|---|
| South Sub-District .......... | 107 | 10 | 93 |
| North Sub-District .......... | 225 | 25 | 111 |
| West Sub-District.... ....... | 120 | 11 | 91 |
| Total................ | 452 | 46 | 101 |

The forty-six *infantile deaths* included one from scarlatina, two from diphtheria, four from diarrhœa, one from tabes mesenterica, two from hydrocephalus, one from tuberculosis, three from meningitis, four from convulsions, three from lung diseases, one from gastritis, one from tonsillitis, one from kidney disease, ten from debility, and two from malformation; ten infants were born prematurely.

The rate of infant mortality throughout England and Wales was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years.

The following table shows the rate of infant mortality during the last ten years in each sub-district:—

| | Mean of 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| South Sub-District ...... | 96 | 110 | 93 | 97·6 |
| North Sub-District ...... | 76 | 139 | 111 | 86·1 |
| West Sub-District ...... | 80 | 100 | 91 | 83·3 |
| Total............ | 82 | 123 | 101 | 88·1 |

The deaths from *zymotic* disorders were 17 in number, against 14, 21, 26, 22, 17, 17, 18, 23, and 54 in the nine preceding years. The 17 deaths from *zymotic* diseases include four from scarlet fever, four from diphtheria, two from enteric fever, two from other forms of fever, and five from diarrhœa.

The rate of mortality from these diseases was 1·0 per 1000 persons living, against a rate of 0·9, 1·4, 1·6, 1·4, 1·0, 1·0, 1·1, 1·4, and 3 2 in the nine preceding years.

In the past ten years there have been altogether 229 deaths in this class, or a mean annual rate of 1·4 per 1000.

*Scarlatina* was very prevalent during the year in many parts of the district, and especially at Ifield, but the mortality was very slight, and nearly all the cases were of a very mild character. Ifield is more especially liable to this disease, as the population is an increasing one, and there is a large proportion of young children. There is also a constant communication beteen Ifield and London as many persons travel daily to and fro. In London, during the autumn and winter months scarlet fever was especially prevalent, and this may have been one reason why there were so many cases at Ifield. Another reason was the mildness of the cases, so that many parents had no medical man to attend their children, and they were perhaps ignorant of the nature of the illness, as some of them were not ill enough to be kept in bed. Many of these children probably went to school in an infectious condition, and experience showed here, as it has shown on so many previous occasions, that in outbreaks of a mild character where the death-rate may be very low, yet the prevalence is very wide-spread, and the disease lingers in the neighbourhood for several months, fresh cases cropping up now and again, apperently due chiefly to school attendance, At Ifield there had been several cases of scarlatina in the autumn of 1886, when the schools were closed for a time; there was then a lull until June 3rd, 1887 when a man was attacked, and two days later three children in another house fell ill. Three more families had the disorder between June 18th and June 24th, while eight more fell ill between July 4th and July 24th; the disorder then abated to some extent, as it only appeared in two houses in August, in one house in September, and in one more up to October 3rd. Then there again came a rise, and the fever broke out in eight more houses between October 13th and November 1st. For about three weeks there were no fresh cases, and then between November 22nd and November 26th five fresh families suffered. After this time, there was only one more house attacked on December 6th and one on December 11th up to the end of the year. In two cases, adult males, and in two cases, adult females were first attacked; in twenty-eight cases, young children were the first to fall ill. There were probably over a hundred cases of illness, and only one death. Some of the houses in which scarlatina appeared were neat and clean and in very good sanitary condition; in some, the people were dirty and careless in their habits. Most of the houses were isolated, and surrounded by a garden, and in no case did milk appear to have any effect in causing or in spreading the disease, nor from enquiry or inspection could I find any illness among cows.

The schools on two occasions were closed during the year with an abatement for a time of the disorder, and then fresh, mild cases would again appear.

### IFIELD AND CRAWLEY DRAINAGE.

An inquiry by Major Tulloch, on behalf of the Local Government Board, was held at Ifield on September 7th, the Sanitary Authority having made application to borrow £2,500 for works of sewerage and sewage disposal for the parishes of Ifield and Crawley. For 14 years this question of drainage has been discussed, and during this period four or five enquiries have been held. At the previous inquiry held by Mr. Codrington on December 23rd, 1885, it was estimated that Mr. Kelsey's scheme would cost £3,600; further additions to this scheme brought up the cost to £4,368 in 1886, of which the sums of £507 and £3,861 were apportioned to Crawley and Ifield respectively. The Authority were quite ready to carry out this scheme, but much opposition was raised to it by the ratepayers on the score of expense. This opposition almost disappeared when Mr. Scrase's scheme was brought forward towards the end of 1886, showing that the works might be carried out at about half the above cost. In January, 1887, the ratepayers of Ifield and Crawley held a meeting at which it was agreed that this new scheme should be supported. About the same time pressure was brought to bear by the East Grinstead Rural Sanitary Authority and by owners of private property complaining to the Local Government Board under sec. 299 of the Public Health Act, 1875, that the Horsham Authority had made default in providing the district with sufficient sewers. Under these circumstances, the work could have been done under compulsion. The necessity of efficient drainage was recognized by every one, and at the meeting on September 7th, 1887, no opposition was expressed. Mr. Norman had been engaged to draw out the plans for the new scheme, and these were laid before the inspector. The advantages of this scheme were that no compulsory purchase of land was required, that the length of the sewer was shorter and therefore cheaper, while a larger area of ground was taken in for drainage purposes. Moreover, the land at the proposed outfall seemed very suitable for the purpose. Under the old scheme, the sewer was three-quarters of a mile longer and therefore much dearer ; the soil at the proposed outfall was not so suitable, and there was some difficulty in buying the land. The assessable value of Crawley was £1,919, and that of Ifield £9,198, giving a total of £11,117. The loan for £2,500 was apportioned so that £432 was charged to Crawley and £2,068 to Ifield. Mr. Norman's plans showed that the pipes were to be small, and as little rainfall as possible was to be admitted into the sewers. About six acres of land were to be taken at the outfall near the Gas Works, and the sewage was to be delivered on the surface of the ground. There were very good gradients to the sewers in the town, and there was a fair fall in the main sewer from the town to the outfall. Automatic flushing tanks were to be fixed at various points, and small streams of water could be brought to them from Hogg's Hill or Goff's Hill, and in this way effectual flushing could be maintained.

At the end of November, sanction having been obtained for borrowing the loan of £2,500, tenders were asked for, and 28 were received at the following meeting of the Authority. The highest tender was for £2,700, and the three lowest tenders were for £1,347, £1,437. and £1,480 respectively. For various reasons, and after enquiry, the three lowest tenders were not accepted. A tender for £1,559 was then accepted, subject to approval on enquiry. Mr. Norman's estimate for carrying out the work was £1,920.

### WATER-SUPPLY.

The long period of dry weather in the Summer of 1887 caused much inconvenience in some places. At Little Haven, near Horsham, arrangements were made with the Local Board for water to be taken from the Union Workhouse twice a week in a cart which held 200 gallons, and this quantity seemed to be enough for the tenants. At Kingsfold, Warnham, water had to be fetched from a distant well to supply some cottages, and one employer let his men have a horse and water-cart for the purpose free of charge.

At Rusper, a new public well was sunk, the money being raised by voluntary contributions.

Twenty-one samples of drinking water were sent for analysis, and of these 5 were impure. Most of the impurities arose from allowing dirt to flow into a well or pond during wet weather; people should exercise more care in keeping all wells, ponds or tanks in a clean condition and free from pollution from external sources. Several new wells have been dug, and in the case of new houses, care is taken that good water is to be obtained, before the dwellings are occupied.

### COWSHEDS AND DAIRIES.

There are 45 cowsheds and dairies: they have been regularly inspected and they have been kept in a clean condition. This authority obtained a copy of the old register, and it has appointed officers to carry out the duties. Regulations were drawn up similar to those given in my last Annual Report, p.p. 73-76, and they came into force on August 1st, 1887.

These regulations are for the following purposes:—

1. For the inspection of cattle in dairies.

2. For prescribing and regulating the lighting, ventilation, cleansing, drainage and water-supply of dairies and cowsheds in the occupation of persons following the trade of cow-keepers or dairymen.

3. For securing the cleanliness of milk-stores, milk-shops, and of milk-vessels used for containing milk for sale by such persons.

4. For prescribing precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination.

The following summary shows the Death-rate from various causes during three decades.

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1878-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1765 | 1766 | 1399 |
| Zymotic „ ......... | 388 | 300 | 144 |
| Phthisis „ ......... | 261 } 533 | 212 } 393 | 134 } 384 |
| Lung Disease ......... | 246 | 326 | 250 |
| 15 *to* 55 *years.* | | | |
| Phthisis Death-rate ......... | 440 mean<br>518 female | 340 mean<br>428 female | 231 mean<br>221 female |
| Lung Disease Death-rate ... | 55 mean<br>57 female | 83 mean<br>69 female | 89 mean<br>48 female |
| Under 1 year .................. | ? | 14543 | 9320 |
| Under 5 years ........ ...... | 3901 | 5035 | 2979 |

Except in the case of lung-diseases, all the rates show a marked decrease from those which prevailed thirty years ago. Most of the people dwell upon a cold, impervious clay. Adopting a classification similar to that described on pp. 6, 7, the influence of soil on the three following diseases may be noted, and may be compared with other districts.

| SOIL. | | Population in middle of the period. | Death-rate per 100,000 living from Phthisis. | Lung-disease. | Diphtheria. |
|---|---|---|---|---|---|
| Pervious | .. | 3305 | 999 | 2632 | 91 |
| Retentive | .. | 12121 | 1518 | 2458 | 288 |
| Total | .. | 15426 | 1406 | 2496 | 246 |

*Inquests* were held in ten cases:—Female, 25 years, accidentally drowned; male, 47 years, suicide by shooting; male, 68 years, suicide by shooting; male, 59 years, suicide by hanging; female, 72 years, suicide by throwing herself under a train; male, 84 years, apoplexy; female, 34 years, pulmonary embolism; male, 56 years, natural causes, congestion of the brain; male, 49 years, natural causes, heart disease; 73 years, suicide by cutting throat.

There were eight deaths returned as "not certified" out of a total of 209 deaths:—Female, 55 years, debility, ulceration of legs; female, 2 months, bronchitis; male, 2 months, supposed cause, convulsions; male, 20 hours, premature birth; female, 3 days, premature birth, convulsions; female, 55 years, probably apoplexy; male, 72 years, natural causes, disease of heart; male, 54 years, heart disease.

In the South Sub-District there were five deaths of children born out of wedlock out of a total of 107 births:—male, 3 months, pneumonia; female, 18 days, debility from birth; male, 2 months, meningitis; female, 10 years, diphtheria; male, 3 months, debility from birth; all these five deaths were duly certified.

In the North Sub-District there was one death of a child born out of wedlock out of a total of 225 births:—Male, 5 months, gastric irritation, convulsions, certified.

In the West Sub-District there was one death of an illegitmate child out of a total of 120 deaths:—Male, 8 months, meningitis, convulsions certified.

*Proceedings before the Magistrates.*—No proceedings were taken out during the year. There was one bad case of overcrowding at Littleworth, and here a summons was issued but it was withdrawn because the nuisance was abated.

A few cases of overcrowding have been dealt with during the year, and the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses have been inspected at intervals and they have been kept in a cleanly state.

The slaughter-houses have been well kept.

There is no common lodging-house in the district.

# HORSHAM RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 ..................... | 204 | 39 | 17 | 9 | 6 | 56 | 77 |
| 1879 .................... | 241 | 50 | 22 | 12 | 21 | 47 | 89 |
| 1880 ..................... | 217 | 40 | 25 | 17 | 12 | 40 | 83 |
| 1881 ..................... | 197 | 40 | 14 | 8 | 9 | 55 | 71 |
| 1882 ..................... | 198 | 41 | 15 | 14 | 12 | 46 | 70 |
| 1883 ..................... | 202 | 32 | 15 | 9 | 8 | 61 | 77 |
| 1884 ..................... | 217 | 38 | 18 | 14 | 18 | 49 | 86 |
| 1885 ..................... | 228 | 38 | 31 | 12 | 14 | 45 | 88 |
| 1886 ..................... | 291 | 61 | 51 | 20 | 14 | 48 | 97 |
| 1887 ..................... | 209 | 46 | 15 | 12 | 8 | 45 | 83 |
| Total..................... | 2204 | 425 | 223 | 127 | 116 | 492 | 821 |
| In 10,000 Deaths...... | 1000 | 193 | 101 | 57 | 52 | 225 | 372 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | ... | 2 | 1 | 1 | 2 | ... | 1 | ... | 5 | 1 | ... | ... | 1 | 14 | 0·9 |
| 1879 | .. | 3 | 1 | 3 | 8 | ... | 1 | 1 | 3 | ... | ... | .. | 1 | 21 | 1·4 |
| 1880 | ... | 4 | 3 | 5 | 4 | ... | 1 | 1 | 7 | ... | 2 | ... | 1 | 26 | 1·6 |
| 1881 | ... | ... | 1 | 2 | 8 | ... | ... | 1 | 5 | 2 | 3 | 1 | 2 | 22 | 1·4 |
| 1882 | ... | 3 | 1 | 5 | 2 | ... | 1 | 1 | 1 | 1 | ... | ... | ... | 17 | 1·0 |
| 1883 | ... | 2 | 1 | ... | 5 | ... | 1 | ... | 2 | 1 | ... | ... | 2 | 17 | 1·0 |
| 1884 | ... | ... | ... | 10 | ... | 1 | 1 | ... | 5 | ... | ... | 1 | ... | 18 | 1·1 |
| 1885 | ... | ... | 1 | 12 | 5 | ... | ... | 1 | 3 | ... | 1 | ... | ... | 23 | 1·4 |
| 1886 | 1 | 23 | 3 | 4 | 15 | ... | ... | ... | 8 | ... | ... | ... | ... | 54 | 3·2 |
| 1887 | ... | ... | 4 | 4 | ... | ... | 2 | 2 | 5 | ... | ... | ... | ... | 17 | 1·0 |
| Tl. | | 37 | 16 | 46 | 49 | 1 | 8 | 7 | 44 | 5 | 6 | 2 | 7 | 229 | 1·4 |

# HORSHAM RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 10 years 1878-87.

| PARISH. | | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. | | | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Typhus. | Entericor Typhoid | Other or doubtful. | | | | | | |
| South Sub-Dist. | Horsham (part) | 720 | ... | 2 | 1 | 5 | 2 | .. | ... | 2 | 1 | ... | ... | ... | 1 | 14 |
| | West Grinstead | 1540 | ... | 5 | 4 | 8 | 3 | ... | 2 | 2 | 4 | ... | 1 | ... | 1 | 30 |
| | Shipley ......... | 1120 | ... | 1 | 1 | 5 | 5 | ... | 2 | ... | 4 | ... | 1 | ... | ... | 19 |
| | Nuthurst......... | 820 | ... | 1 | 1 | 1 | 1 | ... | ... | ... | 2 | ... | ... | ... | 1 | 7 |
| North Sub-Dist. | Horsham (part) | 2260 | ... | 6 | 2 | 2 | 9 | ... | 1 | ... | 11 | 1 | ... | 1 | 2 | 35 |
| | Lower Beeding | 1320 | ... | 2 | ... | 1 | 4 | ... | ... | ... | 5 | ... | ... | ... | 1 | 13 |
| | Ifield ............ | 2700 | 1 | 7 | 2 | 8 | 6 | ... | 1 | 1 | 6 | 2 | 1 | ... | ... | 35 |
| | Crawley ......... | 460 | ... | 2 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| | Rusper ......... | 540 | ... | ... | 1 | ... | .. | . . | ... | ... | 1 | ... | 1 | ... | ... | 3 |
| | Warnham ...... | 1080 | ... | 4 | 1 | 3 | 6 | ... | ... | ... | 2 | 1 | ... | ... | ... | 17 |
| West Sub-dist. | Slinfold ......... | 780 | ... | 1 | 1 | 8 | 3 | ... | 1 | 1 | 2 | ... | 2 | ... | ... | 19 |
| | Itchingfield ... | 440 | ... | ... | 1 | ... | 2 | 1 | ... | 1 | 1 | ... | ... | ... | ... | 6 |
| | Rudgwick ... .. | 1130 | ... | 4 | 1 | 1 | 1 | ... | ... | ... | 2 | 1 | ... | 1 | ... | 11 |
| | Billingshurst ... | 1790 | ... | 2 | ... | 4 | 6 | ... | 1 | ... | 3 | ... | ... | ... | 1 | 17 |
| Whole District ... | | 16700 | 1 | 37 | 16 | 46 | 49 | 1 | 8 | 7 | 44 | 5 | 6 | 2 | 7 | 229 |

# HORSHAM RURAL SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| South Sub-District ... | 4110 | 612 | 70 | 57 | 100 | 40 | 1489 | 170 | 138 | 243 | 97 |
| North Sub-District ... | 7680 | 971 | 106 | 82 | 183 | 68 | 1264 | 138 | 107 | 238 | 88 |
| West Sub-District ... | 3960 | 621 | 53 | 71 | 111 | 59 | 1568 | 134 | 179 | 280 | 149 |
| Whole District ......... | 15750 | 2204 | 229 | 210 | 394 | 167 | 1399 | 145 | 134 | 250 | 150 |
| In 1878.................. | 14588 | 204 | 14 | 21 | 38 | 16 | 1398 | 96 | 143 | 260 | 109 |
| In 1879.................. | 14732 | 241 | 21 | 30 | 49 | 17 | 1635 | 142 | 203 | 332 | 115 |
| In 1880.. ............... | 15350 | 217 | 26 | 19 | 47 | 14 | 1413 | 169 | 124 | 306 | 91 |
| In 1881.................. | 15510 | 197 | 22 | 22 | 30 | 13 | 1270 | 141 | 141 | 193 | 83 |
| In 1882.................. | 15670 | 198 | 17 | 21 | 28 | 12 | 1263 | 108 | 134 | 178 | 76 |
| In 1883.................. | 15840 | 202 | 17 | 24 | 32 | 17 | 1275 | 107 | 151 | 202 | 107 |
| In 1884.................. | 16240 | 217 | 18 | 15 | 44 | 16 | 1336 | 110 | 92 | 271 | 98 |
| In 1885.................. | 16430 | 228 | 23 | 15 | 49 | 21 | 1387 | 140 | 91 | 298 | 127 |
| In 1886........ ......... | 16550 | 291 | 54 | 31 | 50 | 21 | 1758 | 326 | 187 | 302 | 127 |
| In 1887....... .. ...... | 16700 | 209 | 17 | 12 | 27 | 20 | 1251 | 101 | 72 | 161 | 120 |

**Table A.**—Showing the Deaths during the year 1887, in the Rural Sanit
and showing also the Population of s

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | Population at all ages. | | Registered Births. | Mortality from all Causes at Subjoined ages. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Census 1881 | Estimated to middle of 1887 | | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| South Sub-District. | 4083 | 4200 | 107 | 45 | 9 | 5 | 5 | 3 | 10 | 13 | Under 5.<br>5 upwds |
| North Sub-District. | 7403 | 8360 | 225 | 91 | 25 | 7 | 4 | 4 | 18 | 33 | Under 5.<br>5 upwds |
| West Sub-District. | 3940 | 4140 | 120 | 56 | 11 | 3 | 3 | 1 | 14 | 24 | Under 5.<br>5 upwds |
| Horsham Workhouse. | | | | 28 | 2 | — | — | — | 7 | 19 | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5upwds |
| Totals | 15426 | 16700 | 452 | 220 | 47 | 15 | 12 | 8 | 49 | 89 | Under 5.<br>5 upwds |
| Deaths occurring outside the district among persons belonging thereto | | | | | | | | | | | Under 5.<br>5 upwds |
| Deaths occurring within the District among persons not belonging thereto | | | | 11 | 1 | — | — | — | 4 | 6 | Under 5.<br>5 upwds |

District of HORSHAM, classified according to Diseases, Ages, Localities, Localities, and the Births therein during the year.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| | | | | | Cont Fevers | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Measles. | Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Typhus. | Enteric or Typhoid | Other or Doubtful | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| | 1 | 1 | | | | | | | | | | | | | | 2 | | | 10 |
| | | 1 | | | | | 1 | 1 | | | | | | | | 6 | 3 | 2 | 17 |
| | 1 | 2 | | | | | | 4 | | | | | | | | 5 | | | 20 |
| | 1 | | | | | 1 | 1 | | | | | | | | 8 | 8 | 8 | 3 | 29 |
| | | | | | | | | | | | | | | | | | | | 14 |
| | 1 | | | | | | | | | | | | | | 2 | 6 | 8 | 1 | 24 |
| | | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | 2 | | | | | | | | | 3 | | 2 | 1 | 18 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | 2 | 3 | | | | | | 4 | | | | | | | | 7 | | | 46 |
| | 2 | 1 | | | | 3 | 2 | 1 | | | | | | | 13 | 20 | 21 | 7 | 88 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | 1 | | | | | | | | | 1 | | 1 | 1 | 6 |

TABLE B.—Showing the New Cases of Sickness coming to the knowledge c
District of HORSHAM, classifie

| NAMES OF LOCALITIES. | | NEW CASES OF SICKNESS IN PERSONS BELONGIN | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Con |
| 1 | 12 | Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping Cough 18 | Typhus 19 |
| South Sub-District. | Under 5 | | | 1 | | | | |
| | 5 upwds. | | | 3 | 1 | | | |
| North Sub-District. | Under 5 | | 1 | 4 | | | | |
| | 5 upwds. | | 1 | 5 | | | | |
| West Sub-District. | Under 5 | | 2 | | | | | |
| | 5 upwds. | | 3 | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| Totals .................. | Under 5 | | 3 | 5 | | | | |
| | 5 upwds. | | 4 | 8 | 1 | | | |

Sources of Information : In Workhouse and Workhous

he Medical Officer of Health, during the year 1887, in the Rural Sanitary
ccording to Localities and Diseases.

O THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS
GE

| Fevers. | | | | | | | | | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. | |
|---|---|---|---|---|---|---|---|---|---|---|
| nteric or Typhoid | Other or Doubtful | Diarrhœa and Dysentery | Cholera | Rheumatic Fever | Erysipelas | Pyæmia | Puerperal Fever | Ague | | |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | | |
| ...<br>4 | ...... | ......<br>5 | .... | ...... | ...... | ...... | ...... | ...... | ............ | ........................ |
| .. | .. . | .....<br>1 | . . | . . .. | ... . | . . .. | .... | .... | ......... .. | .. .. . ........... |
| . .. | .... | 2<br>.. .<br>6 | ..... | ... | .. . | . . . | ..... | .... | . .... ..... | ............ ........ |
| .. . | ..... | .... | .... | .. . | .. . | .... | . .. | . .. | ..................... | ........... |
| .. | ...... | .... | .... | ... | .. . | .... | . .. | .... | ..... ..... ...... | ................ |
| .... | ... | ... .. | ..... | ...... | .... | .... | ..... | .. . | ........................ | ............. |
| ..... | ...... | ...... | .... | .... | ... | ..... | .... | ..... | ................ | .............. |
| . ... | ...... | .. ... | ... . | .... | ... .. | ..... | .... | ..... | ........................ | ............ .. |
| ..... | ...... | ...... | ... ... | ...... | ... | ..... | ...... | ..... | ........................ | ............... |
| ..... | .... | ...... | ...... | ...... | ..... | . ... | ...... | ..... | .. ........... .. | ....... ........ |
| ..... | .. .. | ..... | . .. | ..... | ..... | ...... | .... | ....... | ........................ | ............... |
| .....<br>4 | ...... | 2<br>......<br>12 | ...... | ...... | .. ... | ...... | ...... | .. .. | ............ | .. ............ |

nfirmary, 48. Among the Out-door Paupers, 509.

## RURAL SANITARY DISTRICT OF PETWORTH.

Population, 10,138 in 1871; 9,595 in 1881. Area in Acres, 45,701. No. of Houses, 2008 in 1871; 1994 in 1881.

During the year 1887 the births of 264 children and the deaths of 131 persons were registered; of the births, 119 were male and 145 were female; of the deaths, 71 were male and 60 were female.

There were four deaths in Petworth Workhouse, and there were five deaths in Wisborough Green Workhouse, and these nine deaths have been distributed among the several parishes whence each inmate came, viz:—Wisborough Green 2, Northchapel 1, Kirdford 3, and Petworth 3; in all, 9.

In each parish the deaths were thus distributed:—Wisborough Green 24, Northchapel 6, Kirdford 29, Petworth 45, Egdean 0, Fittleworth 9, Stopham 2, Coates 1, Burton 0, Duncton 4, Barlavington 0, Sutton 4, Bignor 2, and Bury 5; in all, 131.

There were no deaths in Petworth Cottage Hospital.

The births and deaths in the whole of the district during the past ten years have been as follows:—

| Year. | Birth. | Birth-rate. | Deaths. | Death-rate. |
|---|---|---|---|---|
| 1878 .. | 280 | 28·6 | 184 | 18·8 |
| 1879 .. | 298 | 30·8 | 160 | 16·5 |
| 1880 .. | 267 | 27·8 | 136 | 14·1 |
| 1881 .. | 292 | 30·6 | 158 | 16·5 |
| 1882 .. | 275 | 28·9 | 125 | 13·1 |
| 1883 .. | 262 | 27·5 | 171 | 18·0 |
| 1884 .. | 304 | 31·8 | 140 | 14·6 |
| 1885 .. | 246 | 25·7 | 155 | 16·2 |
| 1886 .. | 284 | 29·7 | 202 | 21·1 |
| 1887 .. | 264 | 27·6 | 131 | 13·7 |

The population in this district is stationary and it contains an excess of aged people, and this may slightly increase the death-rate. The births in 1887 were fewer than in any of the previous ten years with the exception of 1883 when the rate was slightly lower. The deaths also were fewer in 1887 than in any previous year of the past decade with the exception of 1882, when the rate was 13·1 per 1000.

During the past ten years there have been 2772 births and 1562 deaths, so that the natural increase of the population during this period by excess of births over deaths is therefore, 1210. The estimated *decrease* in the population during the same period is 283, so that there must have been a considerable migration into other districts.

In each quarter the births and deaths were as follows :—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .. | 30 | 33 | 63 | 18 | 18 | 36 |
| 2nd ,, .. | 22 | 38 | 60 | 23 | 17 | 40 |
| 3rd ,, .. | 38 | 37 | 75 | 14 | 10 | 24 |
| 4th ,, .. | 29 | 37 | 66 | 16 | 15 | 31 |
| Total | 119 | 145 | 264 | 71 | 60 | 131 |

The births appear to be most numerous in the first quarter of the year :—

| | 1879-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 507 | 75 | 63 | 645 | 71·7 |
| 2nd ,, .. | 479 | 87 | 60 | 626 | 69·5 |
| 3rd ,, .. | 469 | 57 | 75 | 601 | 66·8 |
| 4th ,, .. | 489 | 65 | 66 | 620 | 68·9 |
| Total .. | 1944 | 284 | 264 | 2492 | 276·9 |

The following table shows the birth-rate in each sub-district during the past ten years, and as the populations are similar in age and occupation the rates are very uniform throughout the district :—

| | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| North sub-district .. | 29·2 | 29·7 | 32·1 | 29·5 |
| Petworth Parish .. .. | 29·2 | 28·5 | 23·1 | 28·5 |
| Rest of South Sub-District .. | 28·4 | 31·1 | 25·5 | 28·4 |
| Total................ | 29·0 | 29·7 | 27·6 | 29·0 |

The birth-rate in 1887 throughout England and Wales was 31·4 per 1000 persons living it was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2.6 below the mean annual rate in the ten years, 1877-86.

The deaths at different groups of ages in each quarter are here shown :--

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 9 | 3 | 1 | 1 | 7 | 15 | 36 |
| 2nd ,, .. | 4 | 2 | 3 | 2 | 10 | 19 | 40 |
| 3rd ,, .. | 1 | 2 | — | 4 | 3 | 14 | 24 |
| 4th ,, .. | 2 | 1 | 2 | 2 | 9 | 15 | 31 |
| Total | 16 | 8 | 6 | 9 | 29 | 63 | 131 |

A comparative statement of the deaths in each quarter during the past ten years shows that the deaths are most numerous in the first quarter of the year.

| | 1878-86. | 1887. | Total. | Mean. |
|---|---|---|---|---|
| 1st Quarter .. | 419 | 36 | 455 | 45.5 |
| 2nd ,, .. | 356 | 40 | 396 | 39.6 |
| 3rd ,, .. | 300 | 24 | 324 | 32.4 |
| 4th ,, .. | 356 | 31 | 387 | 38.7 |
| Total .. | 1431 | 131 | 1562 | 156·2 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

| | Births. | Deaths under 1 year, | Ratio to 1000 Births. |
|---|---|---|---|
| North Sub-District .. | 133 | 5 | 37 |
| Petworth Parish .. .. | 68 | 7 | 103 |
| Rest of South Sub-District | 63 | 4 | 63 |
| Total .. | 264 | 16 | 60 |

The rate of infant mortality throughout England and Wales in 1887 was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years.

The following table shows the rate of infant mortality during the past ten years in each sub-district; the rates are low and uniform :—

| | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| North Sub-District ...... | 76 | 65 | 37 | 70·8 |
| Petworth Parish ........ | 89 | 142 | 103 | 96·1 |
| Rest of South Sub-District | 86 | 91 | 63 | 84.4 |
| Total............ | 81 | 95 | 60 | 80·2 |

The sixteen *infantile deaths* included one from hydrocephalus, one from meninigitis, seven from convulsions, one from pneumonia, one from gastritis, one from enteritis, and two from debility; two infants were born prematurely.

The deaths from *zymotic* disorders were four in number against 17, 13, 12, 4, 8, 9, 5, 10, and 18 in the nine preceding years.

The four deaths from zymotic disease included one from scarlatina, one from diphtheria and two from diarrhœa.

The rate of mortality from these diseases was 0·4 per 1000 persons living against a rate of 1·7, 1·3, 1·2, 0·4, 0·8, 0·9, 0·5, 1·0, and 1·8 in the nine preceding years.

In the past ten years there have been altogether 100 deaths in this class of disorders, or a mean annual rate of 1·0 per 1000.

*Diphtheria* caused one death at Loxwood early in the year.

Mary P., two years old, living near the canal, died here on January 8th, but there were no other cases in the house, and the cottage was clean and neat.

There were a few cases of sore throat at Petworth in the autumn, which were probably of a diphtheritic nature, but they were not connected with any sanitary defects. Two of the families affected lived in Percy Row in some very good cottages belonging to Lord Leconfield. This row of houses stands on rising ground in a very healthy situation, and each cottage has a garden in front and at the back. The houses are substantially-built, very clean, and dry. In one of them there lived a man with his wife, and five children from four months to eight years of age. Ethel, three and half years old, was taken ill with a cold on September 7th, and she died with croupy respiration on September 11th. There were no other cases in the house.

In the same row, a few doors off, there lived another family consisting of a man, wife, and five delicate children from five years to eleven years of age. Alice, seven years old, was ill first with a sore throat, then two younger sisters, aged six years and five years respectively, and then the two eldest children, aged nine years and 11 years. They were all attacked at the end of October within a few days of each other, and they all recovered. These children attended three different schools, but there was no spread of the disease in the town. The weather at this time was very cold and much below the average for this period of the year, but the month was much drier than usual.

In another cottage in North-street occupied by a man with his wife, and seven children from nine months to 14 years of age, Frederick, six years old, was taken ill on November 28th, and he died with croupy breathing on December 2nd. This child was liable to attacks of croup. The house was neat and clean. In each of these cottages good water is supplied from the public mains, and within the last two years the closets have been converted into water-closets with short-hopper pans and flushing cisterns. The closets and drains were outside the house in each case. In no instance did the milk supply seem to have anything to do with the illness.

*Scarlatina* appeared in several parts of the district during the year, but in a very mild form.

In a cottage near the Petworth Gas Works there is a cottage occupied by a man, wife, and seven children varying in age from 14 months to 17 years. The baby was taken ill two days after sitting near a man who was recovering from scarlet fever; this man lived in a village near and came into Petworth several times before he had ceased to be infectious, but the actual facts of the case were not clear enough to warrant any proceedings being taken. The baby had a rash, but this was not followed by any peeling of the skin, and it died from convulsions on July 27th, after about five week's illness. A sister, four years old, was taken ill a few days after the baby had developed the fever, and then these two children with the mother were removed to Flathurst cottages, where they were well isolated. The second child recovered, and returned home on August 2nd. The mother was poorly for a day or two with a sore throat, but she had no rash. The rest of the children escaped although they had not previously had scarlet fever.

The cottage was in a clean state, and in an open, healthy situation. The earth-closet was well kept, and there were no drains inside the house. Milk was used by the inmates, but it came from an excellent dairy, and there was no illness among the cows.

About the same time another case occurred at Petworth in a small cottage occupied by a man, wife, and five children varying from two years to 21 years of age. A youth, 16 years old, working on a farm, was taken ill on August 5th, and the rash of scarlet fever appeared on the next day; he was removed to Flathurst cottages on August 7th, where he made a good recovery. There were no other cases in this house, and probably the prompt isolation prevented any spread of the disease.

### PETWORTH WATER SUPPLY.

During the year an additional well was dug near the spring whence the water is pumped into the town; this well is about 20 feet deep and 12 feet in diameter, and it serves as an extra tank or reservoir for water at times when the yield from the spring may be diminished.

No waterworks have been constructed in any other part of the district nor do any seem required. In the Weald there was a scarcity of the water during the dry summer which caused some inconvenience. In this part of the district many people obtain water from shallow mud-ponds, and the water, so obtained, is preferred by many to water drawn from wells, because the latter is here very hard and brackish. This pond water is much softer, and it is a common custom to boil the water before it is used for drinking purposes.

On two occasions, well water has been polluted by paraffin soaking into the ground and finding its way into the water-bed. In each case the paraffin was kept in a barrel in the back yard, and the fluid was drawn off by an ordinary tap whenever it was required. There was no metallic tray under the tap, so that any drops from the tap fell upon the ground and in course of time the water in the well near became polluted. The wells were from 20 to 30 feet distant from the barrel, and they were sunk in a stiff clay.

A metal tray was placed under each tap, so that the soakage into the ground was stopped, and the water was several times pumped out of the wells, but many months elapsed before it was fit for drinking purposes.

The following summary shows the Death-rate from various causes during three decades.

The figures show a marked improvement in recent years over the rates which prevailed twenty and thirty years ago :—

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1878-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1855 | 1933 | 1647 |
| Zymotic „ ......... | 271 | 319 | 108 |
| Phthisis „ ......... | 283 } 494 | 226 } 456 | 158 } 435 |
| Lung Disease ......... | 211 | 230 | 277 |
| *15 to 55 years.* | | | |
| Phthisis Death-rate ......... | 462 mean<br>509 female | 397 mean<br>490 female | 277 mean<br>222 female |
| Lung Disease Death-rate ... | 50 mean<br>44 female | 86 mean<br>90 female | 143 mean<br>127 female |
| Under 1 year .................. | ? | 11885 | 9458 |
| Under 5 years ............... | 3937 | 4081 | 2752 |

While the phthisis death-rate shows a marked decline in recent years, yet the lung disease death-rate has considerably increased and it is much higher in the north sub-district than in other parts of the union. The north sub-district consists of three large parishes on the Weald Clay, and the land here is cold and wet.

The south sub-district, excluding Petworth, consists of ten parishes, five of which are on the upper greensand, on rising ground to the north of the South Downs, while the other five parishes are chiefly on the pervious Sandgate and Hythe beds of the lower greensand.

The following table gives the death-rate from three diseases amongst a population living on different soils during the ten years, 1876-85 :—

| SOIL. | Population in middle of the period. | Death-rate per 100,000 living from Pathisis. | Lung-disease. | Diphtheria. |
|---|---|---|---|---|
| Pervious ...... | 2493 | 1042 | 2166 | 280 |
| Retentive ...... | 7102 | 1675 | 2957 | 394 |
| Total.. ... | 9595 | 1511 | 2751 | 364 |

*Inquests* were held in three cases :—Female, 54 years, natural causes, heart disease; male, 19 years, accidentally drowned; male, 61 years, suicide by hanging, whilst insane.

There were three deaths returned as "not certified" out of a total of 131 deaths :—Female, seven weeks, probably convulsions; male, three days, convulsions; male, two hours, prematurely born.

There was one death in the North Sub-District of an illegitimate child out of 133 births :—Female, six weeks, debility from birth.

There was one death in the South Sub-District of an illegitimate child out of 131 births :—Male, 10 months, convulsions.

Rainfall.—The amount of rainfall during the year was taken daily by the Rev C. Holland, Petworth, who has kindly allowed me to use his tables.

|  | Total depth in inches. | No. of rainy days, | Rainfall. in 1886. |
|---|---|---|---|
| January ..... ....... | 3·32 | 9 | 4·34 |
| February ........... | 0·64 | 4 | 0·39 |
| March................ | 1·86 | 10 | 2·45 |
| April ................ | 1·71 | 10 | 1·96 |
| May ................ | 1·64 | 11 | 5·00 |
| June ................ | 1·00 | 2 | 0·77 |
| July ................ | 0·90 | 7 | 3·21 |
| August .............. | 3·00 | 9 | 1·60 |
| September ........... | 3·80 | 12 | 2·02 |
| October .............. | 1·48 | 5 | 5·43 |
| November ........... | 6·84 | 14 | 4·05 |
| December ....... .... | 2·38 | 10 | 6·87 |
| Total ............ | 28·57 | 103 | 38·09 |

The rain guage is placed 1ft. 4in. above the ground and 190ft. above the sea level; diameter of funnel, five inches.

## DRAINAGE AND SEWAGE.

Each part of the district was regularly inspected during the year, and several minor nuisances were remedied, such as the removal of refuse, the cleansing of ditches and cesspits, and the erection of improved closets. There was nothing in this routine work of any public interest.

The sewage at the Northern outfall at Petworth caused a nuisance because it was not properly distributed over the land; this matter has since been remedied.

## COWSHEDS AND DAIRIES.

The regulations drawn up by this Authority came into force on April 12th, 1887, and the cowsheds and dairies have been regularly inspected.

Nearly all the dairies are kept in a very clean condition and the tins and vessels in use are well looked after.

A few cases of overcrowding have been dealt with during the year, and the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses have been inspected at intervals and they have been kept in a cleanly state.

The slaughter-houses have been well kept.

There is one common lodging-house in the district, and this has been kept clean.

No proceedings were taken before the Magistrates during the year.

# PETWORTH RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 | 184 | 31 | 11 | 11 | 11 | 37 | 83 |
| 1879 | 160 | 28 | 13 | 13 | 11 | 27 | 68 |
| 1880 | 136 | 16 | 10 | 9 | 8 | 27 | 66 |
| 1881 | 158 | 28 | 10 | 9 | 9 | 34 | 68 |
| 1882 | 125 | 17 | 8 | 6 | 8 | 31 | 55 |
| 1883 | 171 | 25 | 13 | 6 | 6 | 41 | 80 |
| 1884 | 140 | 19 | 10 | 8 | 8 | 29 | 66 |
| 1885 | 155 | 20 | 16 | 5 | 8 | 34 | 72 |
| 1886 | 202 | 27 | 18 | 9 | 9 | 46 | 93 |
| 1887 | 131 | 16 | 8 | 6 | 9 | 29 | 63 |
| Total | 1562 | 227 | 117 | 82 | 87 | 335 | 714 |
| In 1,000 Deaths | 1000 | 145 | 75 | 53 | 56 | 214 | 457 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | ... | ... | ... | 6 | 3 | ... | 3 | ... | 3 | ... | ... | 1 | 1 | 17 | 1·7 |
| 1879 | .. | ... | ... | 8 | 1 | ... | 2 | ... | 1 | 1 | ... | ... | ... | 13 | 1·3 |
| 1880 | ... | 3 | 3 | 2 | 2 | ... | 1 | ... | ... | 1 | ... | .. | ... | 12 | 1·2 |
| 1881 | ... | ... | ... | 3 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 4 | 0·4 |
| 1882 | ... | ... | ... | 1 | 3 | ... | ... | ... | 3 | .. | 1 | ... | ... | 8 | 0·8 |
| 1883 | ... | ... | 1 | ... | 1 | ... | 2 | ... | 2 | 1 | 2 | ... | ... | 9 | 0·9 |
| 1884 | ... | ... | ... | 2 | 1 | ... | .. | ... | ... | ... | ... | 2 | ... | 5 | 0·5 |
| 1885 | ... | ... | ... | 4 | 2 | ... | 2 | ... | 1 | ... | 1 | ... | ... | 10 | 1 0 |
| 1886 | ... | 2 | 1 | 4 | 5 | ... | 4 | ... | 1 | ... | 1 | ... | ... | 18 | 1·8 |
| 1887 | .. | ... | 1 | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 4 | 0·4 |
| Tl. | ... | 5 | 6 | 31 | 18 | ... | 15 | ... | 13 | 3 | 5 | 3 | 1 | 100 | 1·0 |

## PETWORTH RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 10 years 1878-87.

| | PARISH. | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. | | | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Typhus. | Enteric or Typhoid | Other or doubtful. | | | | | | |
| North Sub-Dist. | Wisboro' Green | 1650 | ... | ... | ... | 3 | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | 6 |
| | Northchapel ... | 790 | ... | ... | ... | 7 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | 11 |
| | Kirdford ........ | 1700 | ... | 1 | ... | 11 | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | 15 |
| South Sub-Dist. | Petworth ...... | 2940 | ... | 4 | 5 | 5 | 12 | ... | 8 | ... | 7 | 1 | 4 | ... | 1 | 47 |
| | Egdean .......... | 75 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 2 |
| | Fittleworth...... | 700 | ... | ... | ... | 2 | ... | ... | ... | ... | 2 | 1 | ... | 1 | ... | 6 |
| | Stopham......... | 160 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Coates........... | 60 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | 1 | ... | ... | ... | 4 |
| | Burton .......... | 70 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Duncton ... ...... | 265 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Barlavington ... | 180 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Sutton .......... | 310 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Bignor .......... | 130 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Bury ............ | 520 | .. | ... | 1 | 3 | 2 | ... | ... | ... | 2 | ... | ... | 1 | ... | 9 |
| | Whole District ... | 9550 | ... | 5 | 6 | 31 | 18 | ... | 15 | ... | 13 | 3 | 5 | 3 | 1 | 100 |

# PETWORTH RURAL SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| North Sub-District ... | 4135 | 647 | 32 | 66 | 141 | 45 | 1565 | 77 | 160 | 341 | 109 |
| Petworth Parish ..... | 2910 | 504 | 47 | 55 | 68 | 42 | 1732 | 161 | 189 | 233 | 144 |
| South Sub-District ... | 2455 | 411 | 21 | 28 | 61 | 52 | 1674 | 85 | 113 | 248 | 211 |
| Whole District ... . ... | 9500 | 1562 | 100 | 149 | 270 | 139 | 1634 | 104 | 155 | 281 | 145 |
| In 1878....... . ......... | 9780 | 184 | 17 | 17 | 34 | 8 | 1881 | 173 | 173 | 346 | 82 |
| In 1879... . ............ | 9657 | 160 | 13 | 17 | 35 | 15 | 1656 | 134 | 175 | 362 | 155 |
| In 1880 . ............... | 9603 | 136 | 12 | 12 | 22 | 6 | 1416 | 124 | 124 | 229 | 62 |
| In 1881 .................. | 9550 | 158 | 4 | 13 | 38 | 16 | 1658 | 41 | 136 | 397 | 167 |
| In 1882...... ... ... | 9500 | 125 | 8 | 12 | 17 | 12 | 1315 | 84 | 126 | 179 | 126 |
| In 1883... ..... ........ | 9500 | 171 | 9 | 15 | 26 | 18 | 1800 | 94 | 158 | 273 | 189 |
| In 1884 . ...... ........ | 9550 | 140 | 5 | 14 | 20 | 22 | 1466 | 52 | 146 | 209 | 230 |
| In 1885... . ..... ..... | 9550 | 155 | 10 | 15 | 25 | 8 | 1663 | 104 | 156 | 261 | 83 |
| In 1886........ ......... | 9550 | 202 | 18 | 18 | 30 | 17 | 2115 | 188 | 188 | 314 | 178 |
| In 1887... . ...... | 9550 | 131 | 4 | 16 | 23 | 17 | 1371 | 42 | 167 | 241 | 179 |

TABLE A.—Showing the Deaths during the year 1887, in the Rural Sa
and showing also the Population o

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | POPULATION AT ALL AGES. | | Registered Births. | MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CENSUS 1881 | Estimated to middle of 1887 | | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| North Sub-District. | 4160 | 4140 | 133 | 53 | 4 | 5 | 3 | 4 | 15 | 22 | Under<br>.........<br>5 upw |
| Petworth Parish. | 2942 | 2940 | 68 | 42 | 6 | 3 | 2 | 3 | 11 | 17 | Under<br>.........<br>5 upw |
| Rest of South Sub-District. | 2493 | 2470 | 63 | 27 | 4 | — | 1 | 2 | 3 | 17 | Under<br>.........<br>5 upw |
| Petworth Workhouse. | | | | 4 | 2 | — | — | — | — | 2 | Under<br>.........<br>5 upw |
| Wisborough Green Workhouse. | | | | 5 | — | — | — | — | — | 5 | Under<br>.........<br>5 upw |
| Petworth Cottage Hospital. | | | | — | — | — | — | — | — | — | Under<br>.........<br>5 upw |
| | | | | | | | | | | | Under<br>.........<br>5 upw |
| | | | | | | | | | | | Under<br>.........<br>5 upw |
| | | | | | | | | | | | Under<br>.........<br>5 upw |
| | | | | | | | | | | | Under<br>.........<br>5 upw |
| | | | | | | | | | | | Under<br>.........<br>5upw |
| TOTALS .................. | 9595 | 9550 | 264 | 131 | 16 | 8 | 6 | 9 | 29 | 63 | Under<br>.........<br>5 upw |
| Deaths occurring outside the district among persons belonging thereto .................... | | | | | | | | | | | Under<br>.........<br>5 upw |
| Deaths occurring within the District among persons not belonging thereto ............ | | | | | | | | | | | Under<br>.........<br>5 upw |

strict of PETWORTH, classified according to Diseases, Ages, Localities
calities, and the Births therein during the year.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| | | | | Cont Fevers | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scarlatina. 15 | Diphtheria. 16 | Croup (not "spasmodic") 17 | Whooping Cough. 18 | Typhus. 19 | Enteric or Typhoid 20 | Other or Doubtful 21 | Diarrhœa and Dysentery. 22 | Cholera. 23 | Rheumatic Fever. 24 | Erysipelas. 25 | Pyæmia. 26 | Puerperal Fever. 27 | Ague. 28 | Phthisis. 29 | Bronchitis, Pneumonia, & Pleurisy. 30 | Heart Disease 31 | Injuries. 32 | Other Diseases 33 |
| | 1 | | | | | | | | | | | | | | 3 | | | 5 |
| | | | | | | | 1 | | | | | | | 8 | 8 | 5 | 1 | 21 |
| 1 | | | | | | | | | | | | | | | 3 | | | 5 |
| | | | | | | | | | | | | | | 6 | 3 | 5 | 1 | 18 |
| | | | | | | | | | | | | | | | | | | 4 |
| | | | | | | | 1 | | | | | | | 2 | 5 | 7 | 1 | 7 |
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| 1 | 1 | | | | | | | | | | | | | | 6 | | | 16 |
| | | | | | | | 2 | | | | | | | 16 | 17 | 17 | 3 | 52 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

TABLE B.—Showing the New Cases of Sickness coming to the knowled
District of PETWORTH, cla

| NAMES OF LOCALITIES. 1 | NEW CASES OF SICKNESS IN PERSONS BELO<br>12 | Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping Cough 18 |
|---|---|---|---|---|---|---|---|
| North Sub-District. | Under 5 | | 1 | 2 | | | 1 |
| | 5 upwds. | | 6 | 10 | | | |
| Petworth Parish. | Under 5 | | 1 | 1 | | | 1 |
| | 5 upwds. | | 2 | 4 | | | |
| Rest of South Sub-District. | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
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| | 5 upwds. | | | | | | |
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| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Totals ............... ..... | Under 5 | | 2 | 3 | | | 2 |
| | 5 upwds. | | 8 | 14 | | | |

Sources of Information: In Workhouse and Work
In-patients of Pet

Medical Officer of Health, during the year 1887, in the Rural Sanitary
ding to Localities and Diseases.

| E DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| s. | | | | | | | | | |
| Other or Doubtful | Diarrhœa and Dysentery | Cholera | Rheumatic Fever | Erysipelas | Pyæmia | Puerperal Fever | Ague | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. | |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | | |
| ...... | 1<br>......<br>3 | ...... | ...... | ...... | ...... | ...... | ...... | ............ | ............ |
| .... | 1<br>....<br>1 | .... | .... | ....<br>1 | ...... | .... | ..... | ........ | ........ |
| ..... | 3<br>....<br>11 | ..... | ..... | .... | ..... | ..... | .... | ........ | ........ |
| ...... | ..... | ..... | ..... | .... | .... | .... | .... | ............ | ............ |
| ...... | ..... | .... | .. | .... | .... | .... | ..... | ............ | ............ |
| .... | ..... | ...... | ...... | .... | ..... | ..... | ..... | ............ | ............ |
| ...... | ...... | ..... | ..... | .... | ...... | ..... | ..... | ............ | ............ |
| ...... | ..... | .... | ..... | .... | ..... | ..... | .... | ............ | ............ |
| ...... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ............ | ............ |
| ..... | ..... | ...... | ...... | .... | ...... | ..... | .... | ............ | ............ |
| ..... | ..... | .... | ..... | ..... | ..... | .... | ..... | ............ | ............ |
| ..... | 5<br>.....<br>15 | ..... | ..... | .....<br>1 | ..... | ...... | ..... | Other........ | ............ |

nary. 35. Among the Out-door Paupers, 558.
ge Hospital, 21.

# RURAL SANITARY DISTRICT OF THAKEHAM.

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Population, 8,335 in 1871; 8,285 in 1881. Area in Acres, 40,636. No. of Houses, 1,705 in 1871; 1,652 in 1881.

During the year 1887 the births of 245 children and the deaths of 123 persons were registered; of the births, 123 were male and 122 were female; of the deaths, 78 were male and 45 were female.

There were 14 deaths in Thakeham Workhouse, and these have been distributed among the several parishes whence each inmate came, viz., Greatham 1, Cold Waltham 1, Pulborough 5, Storrington 4, Sullington 1, Thakeham 1, Washington 1; in all—14.

The deaths in each parish were thus distributed:—North Stoke 3. Amberley 9, Rackham 0, Greatham 1, Hardham 4, Cold Waltham 8, Wiggonholt 0, Pulborough 24, West Chiltington 5, Parham 2, Storrington 29, Sullington 5, Thakeham 6, Warminghurst 0, Ashington 1, Wiston 2, Washington 15, Findon 9; in all—123.

The births and deaths in the whole of the district during the past ten years have been as follows:—

| Year. | Birth. | Birth-rate. | Deaths. | Death-rate. |
|---|---|---|---|---|
| 1878 | 257 | 30·8 | 141 | 16·9 |
| 1879 | 275 | 33·0 | 127 | 15·2 |
| 1880 | 269 | 32·4 | 148 | 17·8 |
| 1881 | 231 | 27·8 | 114 | 13·7 |
| 1882 | 251 | 30·3 | 103 | 12·4 |
| 1883 | 232 | 28·0 | 121 | 14·6 |
| 1884 | 247 | 29·9 | 126 | 15·2 |
| 1885 | 261 | 31·6 | 119 | 14·4 |
| 1886 | 220 | 26·6 | 118 | 14·3 |
| 1887 | 245 | 29·7 | 123 | 14·9 |

During the past ten years there have been in this district 2488 births and 1240 deaths. The natural increase of population during this period by excess of births over deaths was, therefore, 1248. The estimated *decrease* of population during the same period is 93, so that over 1300 persons must have migrated into other districts.

In each quarter the births and deaths were as follows :—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .. | 31 | 32 | 63 | 26 | 13 | 39 |
| 2nd ,, .. | 32 | 36 | 68 | 14 | 12 | 26 |
| 3rd ,, .. | 34 | 26 | 60 | 14 | 6 | 20 |
| 4th ,, .. | 26 | 28 | 54 | 24 | 14 | 38 |
| Total | 123 | 122 | 245 | 78 | 45 | 123 |

The births appear to be most numerous in the first and second quarters of the year :—

| | 1879-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 477 | 62 | 63 | 602 | 67 |
| 2nd ,, .. | 456 | 53 | 68 | 577 | 64 |
| 3rd ,, .. | 420 | 61 | 60 | 541 | 60 |
| 4th ,, .. | 413 | 44 | 54 | 511 | 57 |
| Total .. | 1766 | 220 | 245 | 2231 | 248 |

The following table shows the birth-rate in various localities, during the last ten years, and as the populations are similar in age and occupation the rates are pretty uniform throughout the district :—

| | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| Pulborough Parish .. .. | 33·5 | 22·1 | 32·0 | 32·2 |
| Rest of Pulborough S. D. .. | 29·0 | 30·0 | 24·7 | 28·7 |
| Storrington Parish .. .. | 27·5 | 29·2 | 24·6 | 27·4 |
| Rest of Washington S· D· .. | 30·5 | 26·0 | 33·8 | 30·4 |
| Total................. | 30·4 | 26·6 | 29·7 | 30·0 |

The birth-rate in 1887 throughout England and Wales was 31·4 per 1000 persons living. It was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2.6 below the mean annual rate in the ten years, 1877-86.

The deaths at different groups of ages in each quarter are here shown :—

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 14 | — | 2 | 3 | 7 | 13 | 39 |
| 2nd ,, .. | 2 | 3 | — | — | 5 | 16 | 26 |
| 3rd ,, .. | 1 | 1 | 1 | 2 | 7 | 8 | 20 |
| 4th ,, .. | 2 | 9 | 3 | 1 | 7 | 16 | 38 |
| Total | 19 | 13 | 6 | 6 | 26 | 53 | 123 |

A comparative statement of the deaths in each quarter during the past ten years shows that the deaths are most numerous in the first and second quarters of the year.

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 271 | 31 | 39 | 341 | 34·5 |
| 2nd ,, .. | 258 | 31 | 26 | 315 | 31·5 |
| 3rd ,, .. | 225 | 27 | 20 | 272 | 27·2 |
| 4th ,, .. | 245 | 29 | 38 | 312 | 31·2 |
| Total .. | 999 | 118 | 123 | 1240 | 124·0 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

| | Births. | Deaths under 1 year, | Ratio to 1000 Births. |
|---|---|---|---|
| Pulborough Parish .. | 58 | 3 | 52 |
| Rest of Pulborough S. D. .. | 52 | 6 | 115 |
| Storrington Parish .. .. | 32 | 4 | 125 |
| Rest of Washington S. D. | 103 | 6 | 58 |
| Total .. | 245 | 19 | 77 |

The rate of infant mortality throughout England and Wales in 1887 was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years.

The following table shows the rate of infant mortality during the past ten years in various localities; and in each case the rate is low :—

| | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| Pulborough Parish ...... | 75 | 75 | 52 | 73 |
| Rest of Pulborough S. D. | 86 | 47 | 115 | 85 |
| Storrington Parish ...... | 70 | 105 | 125 | 79 |
| Rest of Washington S. D. | 60 | 101 | 58 | 64 |
| Total............ | 73 | 81 | 77 | 74 |

The 19 *infantile deaths* in 1887 included one from tuberculosis, three from lung diseases, one from gastritis, and twelve from debility ; two infants were born prematurely. Of these 19 deaths, as many as fourteen occurred in the first quarter of the year.

The deaths from *zymotic* disorders were 13 in number against 9, 9, 29, 6, 6. 7, 12, 14, and 16 in the nine preceding years. The 13 deaths included one from scarlatina, four from diphtheria, one whooping-cough, four from enteric fever, two from diarrhœa. and one from erysipelas.

The rate of mortality from these diseases was 1·5 per 1000 persons living against a rate of 1·0, 1·0, 3·4, 0·7, 0·7, 0·8, 1·4, 1·6, and 1·9 in the nine preceding years.

During the past ten years there have been altogether 121 deaths in this class of disorders, or a mean annual rate of 1·4 per 1000 persons living.

*Measles* was very prevalent at Washington in June and it seems to have been brought into the parish from Brighton, and then it spread through school attendance. The first case occurred about June 12th and in a fortnight it had spread all over the village. About 110 children attend the National School, but on June 24th when the school was closed hardly any children came. Most of the cases were very mild and only a few were attended by any medical man. There were no deaths. The school, having been cleansed and fumigated, was re-opened on July 8th when the outbreak was over.

Measles had not been prevalent in the village since June, 1874, so that in the interval of thirteen years, a fresh series of children had appeared who were susceptible to the disease.

*Diphtheria* broke out at Washington in November. At Green Farm, in a house occupied by a man, wife and four children, Martha, 7 years old, fell ill on November 18th and recovered, but her younger brothers, 5 years old, and 3 years old respectively, were attacked on November 25th and died on November 28th; the baby 2 years old, was poorly for a few days, but it recovered, and there were no more cases in the house. About a quarter of a mile away from Green Farm there are two cottages at Poplars under the Downs. In one of these, occupied by a man, a housekeeper and three children, the disease appeared on November 24th when Ellen, 11 years old, fell ill, and on November 28th, William, 9 years old, was attacked, and both recovered. A lad, 13 years old, and the other inmates escaped. These cottages lay in a very low damp situation some little distance from the village of Washington which stands on rising ground.

At Green Farm there is a pond close to the house, and at Poplars the cottage was reached by crossing a large field which was in a very wet and swampy condition.

At the same time the disorder appeared at the blacksmith's in the village where there lived the parents, two adult sons, and two younger children. Frederick, 12 years old, failed on November 24th; John, 17 years old, who attended a night school, fell ill on November 25th; Alice, 14 years old, on November 29th, and Henry, 20 years old, on December 5th. Alice died on December 14th, but all the rest recovered. The mother was poorly on November 30th, but she soon recovered. This house was said to be a cold one and the living room was paved with flat stones which were often damp.

Nearly a mile to the north, in a very clean and neat cottage, the disease appeared on November 25th, when Rose, 7 years old, fell ill, but she afterwards recovered. The parents and four other children escaped. Thus diphtheria broke out in four houses at about the same time. Each house was at some distance from the rest, and three of them were very clean and well isolated, there being a garden to each. Three were in a damp situation, but one was on dry and sandy soil.

There were no drains or closets inside these houses, and the water-supply was in each case of good quality, and it was drawn from wells a long way apart. Some of those attacked drank no milk until after the illness appeared; others drank a small quantity in their tea or coffee. There was a farmyard near one house, but the cattle, pigs, and poultry, were all in good health. It will be noticed that in each house the first inmate attacked was of school age, and attended Washington school, and during the autumn the children of three or four families had been absent from school in consequence of having had sore throats, and these were children who lived in isolated houses in the parish and who had a long way to walk to the village. It seems most probable that cases which are looked upon as merely sore-throats from having taken a chill, or from having become wet, are really cases of an infectious nature, and very liable to be overlooked. The month of November was very cold and damp, and these conditions probably contributed to develope the disease with more intensity.

Diphtheria spread to two other houses. In one old cottage occupied by a man and two sons, Walter, 16 years old, fell ill on December 10th and he died on December 13th; his brother, George, 10 years old, was attacked on December 17th but he recovered, and the father escaped. Walter, who had no regular work, used often to loiter about at the blacksmith's forge for the sake of warmth, and he most likely caught his illness by going there. In a sixth cottage, on rising ground, there dwelt a man, wife, an adult daughter and four children; the adult daughter and the three youngest children had diphtheria in December, but they all recovered.

During November and December the disease broke out in six houses occupied by 14 adults and 19 children; of the 14 adults three had diphtheria and recovered, while one or two others were unwell for a day or two with sore throats. The adults attacked were from 17 to 22 years of age. Of the 19 children living in these six houses, fourteen were attacked, of whom ten recovered, and four died.

The average attendance at Washington School is about 100, but as the children were kept away in consequence of the outbreak, and as one chief cause of the spread of the disease seemed to be school attendance, the school was closed on November 30th.

The school rooms were then well cleansed and fumigated, and new earth closets were put up. In each house the cases were kept isolated, and the rooms cleansed and disinfected.

In Thakeham Workhouse, a child. $3\frac{3}{4}$ years old, failed with diphtheria on December 18th, on which day she was removed to an isolated ward. The child recovered and there were no other cases in the house.

The Union Workhouse is in a very lonely spot, and it is about two miles distant from Washington. The child and its mother had for some time been inmates, and they had not been to any place where the child could have been exposed to infection. It is possible that on visiting days, some one may have seen the child while suffering from a mild form of sore throat, but no history of this could be made out.

*Scarlet fever* was prevalent at Storrington and it caused one death. The first case occurred in a family at Brickyard Cottages, about a mile distant from the village and in an isolated position. There are here two well-built cottages owned by Lord Zouche and occupied by P——— and D———. There were no drains inside these houses, the water supply was good, and there was a large garden to each cottage. Two elderly visitors came from London to P———'s on April 9th, and Amelia P., $2\frac{3}{4}$ years old, fell ill with scarlet fever on April 13th; then one after the other, the three remaining children, aged 8, 12 and 16 respectively, were attacked, and by the middle of June they were all well again. Next door there dwelt D——— with five young children. Eli, 7 years old, fell ill on July 26, the father on August 9th, Laura, 6 years old, on August 12th, Harriett, 2 years old, on August 13th, and Maude, 6 months old, on August 27th. They all recovered, and these houses in due course were fumigated and cleansed. D———'s family contracted the disorder from their neighbour, but it is not clear how P——'s infant caught the fever in the first place. She might have caught it from the visitors, but they were in good health when they came down, and they had not been suffering from the disorder.

As soon as the P——s fell ill, none of the children attended Storrington school, and as soon as Eli D——— fell ill, none of this family attended school. The next cases appeared in the town of Storrington in a cottage occupied by L——, wife, and four children. Two of the boys had scarlet fever at the end of July and the other two boys fell ill with it in the middle of September. In another cottage occupied by widow M—— and nine children, eight were attacked between October 6th and October 26th, and then the disorder spread more rapidly. From April to October four families had been attacked containing nine adults and twenty-one children; of the nine adults, only one was attacked; of the twenty-one children, twenty had been attacked. In all these houses recovery took place in every case.

The school was closed on November 8th and then it was cleansed and fumigated. Between October and the end of December, the fever appeared in nine more houses containing 18 adults and 40 children. None of the adults were attacked, but 28 out of the 40 children fell ill. Some of the children lived in Storrington, some at Cootham, a small hamlet nearly a mile distant, and a few lived in isolated cottages scattered through the parish. Nearly all the cottages were clean and neat and without any sanitary defects. There were most likely several more cases than those recorded above, as many had the fever so slightly that no medical man was called in. School attendance seemed to be the one thing common to all the first cases, and when the school re-opened after harvest on September 7th some children must have been present who had had the disorder so mildly that the nature of it had not been recognized. At the end of December the outbreak came to an end. The only death was that of a girl, 3 years old, who died of bronchitis following on scarlet fever.

*Enteric fever* appeared in a cottage at North End, Findon early in the year.

At North End there is a row of seven old cottages situated in an elevated position on the Chalk Downs. The water is obtained from a deep well on the roadside about 80 yards away, the water is of very good quality and it was used by about 12 families who live in this small hamlet.

These cottages were occupied (with one exception) by persons with large families, and as each dwelling had only two bedrooms, a living room and a small wash-house, most of them were in a state of over crowding. No lodgers were taken in, and nearly all the children were very young, so that the overcrowding could not be abated by sending some of the inmates away. The men who lived here were engaged in farm work, and there were no other houses near where they could find better accommodation.

One or two of these cottages were kept in a clean state but the one in which the fever occured was very foul owing to the dirty condition of the inmates. Ishmael H , lived here with his wife and seven children. Thomas, 7 years old, fell ill about December 13th, 1886, Albert, 14 years old, on January 1st, 1887, Ann, 9 years old, on January 6th, and Alfred, 17 years old, on January 12th. Mrs. H. was attacked on January 22nd, and on the same day Kate, 11 years old, fell ill. Mrs. H. was removed to Thakeham Workhouse on January 29th, and Thomas, Ernest and Ethel were taken there on February 1st. and three others were taken there on February 19th. as soon as they were fit to be removed. Albert died on February 18th, but all the rest recovered. There were no other cases in this row, nor in any other of the cottages which formed this small hamlet. The property has since changed hands, and the cottages are now repaired and painted and cleansed; two fresh closets have been built and the water-supply has been improved.

A second death from enteric fever was registered at Ashington.

A labouring man, 52 years of age, pricked the little finger of the right hand on March 4th with a furze bush; in a few days the arm and hand became much swollen and he died on March 17th. The cottage was dry and clean and there were no drains inside the house.

There was no spread of the disorder.

Another death from enteric fever was registered at Mare Hill, near Pulborough. In a semi-detached cottage, in a hollow, there dwelt a man with his wife, four children and a grandchild, The man, 61 years old, had been ill before he came to this place at Michaelmas, 1887, and after suffering from diarrhœa for a month, he died on Dec. 2nd. There were no other cases of the fever, although the sanitary condition of the house was very bad owing to the poverty and the dirty habits of the inmates.

The following summary shows the Death-rate from various causes during three decades.

The figures show a marked improvement in recent years over the rates which prevailed twenty and thirty years ago:—

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1878-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1824 | 1649 | 1497 |
| Zymotic „ ......... | 402 | 292 | 146 |
| Phthisis „ ......... | 285 } 474 | 221 } 418 | 153 } 436 |
| Lung Disease ... ..... | 189 | 197 | 283 |
| 15 *to* 55 *years.*<br>Phthisis Death-rate ......... | 454 mean<br>560 female | 356 mean<br>379 female | 247 mean<br>267 female |
| Lung Disease Death-rate ... | 43 mean<br>45 female | 61 mean<br>45 female | 70 mean<br>73 female |
| Under 1 year .................. | ? | 9763 | 8193 |
| Under 5 years ........ ...... | 3497 | 3317 | 2719 |

The people in this district dwell chiefly on pervious soils; the greater number are upon the sandy beds of the lower greensand, while those who live in Pulborough are upon the clayey beds of the same formation, although here the slope of the ground is such that all surface water flows off readily. Amberley, Sullington and Washington are mainly on the upper greensand beds, and the situation is high and dry. Findon and North Stoke are the only two villages on the Chalk, but there are numerous isolated cottages scattered over the Downs. There is no village on the weald clay, although upon this soil there are several farms and cottages.

The influence of soil upon the three following diseases is here shown:—

| SOIL. | Population in middle of the period. | Death-rate in 1876-85 per 100,000 living from Phthisis. | Lung-disease. | Diphtheria. |
|---|---|---|---|---|
| Pervious ...... | 7933 | 1500 | 2571 | 176 |
| Retentive ...... | 352 | 1704 | 4261 | — |
| Total ...... | 8285 | 1509 | 2644 | 169 |

### WATER SUPPLY AND DRAINAGE.

No works of any public importance were carried out during the year. The district was regularly inspected, and several minor nuisances were remedied. but there was nothing in this routine work of public interest.

### COWSHEDS AND DAIRIES.

The new regulations were agreed to on April 12th 1887, and they came into effect on July 1st, 1887.

The cowsheds and dairies were frequently inspected, and nearly all of them were found in a very good condition.

*Inquests* were held in eight cases:—Male, 14 years, accidental fall from a cart; male, 32 years, accidentally killed by being caught in the shaft of an engine driving a mill; female, 37 years, natural causes, congestion of the lungs; female, 2 days, died from injuries received during birth; male, 37 years, heart disease; female, 9 years, accidentally burnt; male, 41 years, accidentally run over by a wagon; male, 60 years, found drowned in a tank.

There were two deaths returned as "not certified" during the year out of a total of 123 deaths:—male, 14 hours, insufficient vitality, male, 1 week, insufficient vitality.

There were two deaths of children born out of wedlock:—male, 5 months, marasmus, bronchitis certified; male, 7 days, congenital syphilis, certified.

A few cases of overcrowding have been dealt with during the year, and the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses have been inspected at intervals and they have been kept in a cleanly state.

The slaughter-houses have been well kept.

There is no common lodging-house in the district.
has been kept clean.

No proceedings were taken before the Magistrates during the year.

# THAKEHAM RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 ..................... | 141 | 26 | 8 | 4 | 9 | 28 | 66 |
| 1879 ..................... | 127 | 20 | 7 | 4 | 6 | 23 | 67 |
| 1880 ..................... | 148 | 32 | 20 | 7 | 9 | 34 | 46 |
| 1881 ..................... | 114 | 14 | 10 | 6 | 6 | 32 | 46 |
| 1882 ..................... | 103 | 9 | 12 | 4 | 4 | 22 | 52 |
| 1883 ..................... | 121 | 19 | 11 | 3 | 7 | 32 | 49 |
| 1884 ..................... | 126 | 17 | 12 | 9 | 5 | 31 | 52 |
| 1885 ..................... | 119 | 21 | 13 | 8 | 5 | 28 | 44 |
| 1886 ..................... | 118 | 18 | 9 | 2 | 6 | 32 | 51 |
| 1887 ..................... | 123 | 19 | 13 | 6 | 6 | 26 | 53 |
| Total..................... | 1240 | 195 | 115 | 53 | 63 | 288 | 526 |
| In 1,000 Deaths ...... | 1000 | 157 | 93 | 43 | 51 | 232 | 424 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhoea and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | ... | 2 | ... | ... | 2 | ... | 1 | ... | 2 | ... | 2 | ... | ... | 9 | 1·0 |
| 1879 | .. | ... | ... | 1 | 3 | ... | 1 | ... | 2 | 1 | ... | 1 | ... | 9 | 1·0 |
| 1880 | ... | 1 | 1 | ... | 24 | ... | ... | ... | 3 | ... | ... | .. | ... | 29 | 3·4 |
| 1881 | ... | ... | 2 | 3 | ... | ... | ... | ... | 1 | .. | ... | ... | ... | 6 | 0·7 |
| 1882 | ... | 1 | 1 | 2 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 6 | 0·7 |
| 1883 | ... | ... | 1 | 2 | ... | ... | 2 | ... | 2 | ... | ... | ... | ... | 7 | 0·8 |
| 1884 | ... | ... | 1 | 1 | 3 | ... | 1 | ... | ... | ... | 3 | ... | 2 | 12 | 1·4 |
| 1885 | ... | ... | 3 | 5 | 2 | 1 | ... | ... | 2 | ... | 2 | ... | ... | 14 | 1·6 |
| 1886 | 1 | ... | 2 | ... | 6 | ... | 1 | ... | 2 | ... | 1 | ... | 3 | 16 | 1·9 |
| 1887 | ... | .. | 1 | 4 | 1 | ... | 4 | ... | 2 | ... | 1 | ... | .. | 13 | 1·5 |
| Tl. | 1 | 4 | 12 | 18 | 41 | 1 | 11 | ... | 16 | 2 | 9 | 1 | 5 | 121 | 1·4 |

## THAKEHAM RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 10 years 1878-87.

| | PARISH. | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. | | | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Typhus. | Enteric or Typhoid | Other or doubtful. | | | | | | |
| Pulborough Sub-Dist. | North Stoke ... | 100 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Amberley ...... | 600 | ... | ... | 2 | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | ... | 6 |
| | Rackham ...... | 160 | ... | 1 | ... | ... | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | 5 |
| | Greatham ..... | 60 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — |
| | Hardham ...... | 100 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — |
| | Cold Waltham.. | 380 | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | 1 | 5 |
| | Wiggonholt ... | 40 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Pulborough ... | 1810 | ... | 1 | 3 | 6 | 4 | ... | 4 | ... | 2 | ... | 1 | ... | 1 | 22 |
| | W. Chiltington | 660 | ... | ... | ... | ... | 4 | ... | 1 | ... | 1 | ... | 2 | 1 | ... | 9 |
| Washington Sub-Dist. | Parham ......... | 90 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — |
| | Storrington ... | 1300 | ... | 1 | 3 | 5 | 6 | 1 | 3 | ... | 2 | ... | 3 | ... | 1 | 25 |
| | Sullington ...... | 200 | ... | ... | ... | ... | 1 | .. | ... | ... | ... | ... | 1 | ... | 1 | 3 |
| | Thakeham ...... | 540 | ... | ... | 1 | ... | 4 | ... | 1 | ... | 2 | ... | ... | ... | ... | 8 |
| | Warminghurst.. | 90 | .. | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | 2 |
| | Ashington ...... | 250 | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 6 |
| | Wiston ......... | 310 | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| | Washington ... | 840 | 1 | ... | ... | 4 | 6 | ... | ... | ... | 3 | ... | 1 | ... | ... | 15 |
| | Findon ......... | 720 | ... | 1 | 2 | 3 | 2 | ... | 1 | ... | 1 | ... | ... | ... | | 10 |
| | Whole District ... | 8250 | 1 | 4 | 12 | 18 | 41 | 1 | 11 | ... | 16 | 2 | 9 | 1 | 5 | 121 |

## THAKEHAM RURAL SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| Pulborough Parish ... | 1805 | 276 | 22 | 32 | 43 | 24 | 1529 | 122 | 177 | 238 | 133 |
| Rest of Pulboro. S.D. | 2085 | 327 | 27 | 38 | 57 | 31 | 1568 | 129 | 182 | 273 | 148 |
| Storrington Parish ... | 1375 | 229 | 25 | 26 | 54 | 18 | 1665 | 181 | 189 | 439 | 146 |
| Rest of Washing. S.D. | 3015 | 408 | 47 | 31 | 81 | 28 | 1353 | 155 | 102 | 268 | 92 |
| Whole District .......... | 8280 | 1240 | 121 | 127 | 235 | 101 | 1497 | 146 | 153 | 283 | 121 |
| In 1878.................. | 8330 | 141 | 9 | 16 | 26 | 11 | 1692 | 108 | 192 | 312 | 132 |
| In 1879.................. | 8316 | 127 | 9 | 9 | 26 | 16 | 1527 | 108 | 108 | 312 | 192 |
| In 1880.................. | 8302 | 148 | 29 | 15 | 28 | 8 | 1782 | 349 | 180 | 337 | 96 |
| In 1881.................. | 8290 | 114 | 6 | 17 | 14 | 8 | 1375 | 72 | 205 | 168 | 96 |
| In 1882.................. | 8280 | 103 | 6 | 11 | 20 | 8 | 1243 | 72 | 132 | 241 | 96 |
| In 1883.................. | 8280 | 121 | 7 | 15 | 20 | 9 | 1461 | 84 | 181 | 241 | 108 |
| In 1884.................. | 8250 | 126 | 12 | 10 | 24 | 8 | 1527 | 145 | 121 | 290 | 96 |
| In 1885.................. | 8250 | 119 | 14 | 10 | 27 | 10 | 1442 | 169 | 121 | 327 | 121 |
| In 1886.................. | 8250 | 118 | 16 | 10 | 32 | 11 | 1430 | 194 | 121 | 388 | 133 |
| In 1887.................. | 8250 | 123 | 13 | 14 | 18 | 12 | 1490 | 157 | 170 | 218 | 145 |

TABLE A.—Showing the Deaths during the year 1887, in the Rural Sa
and showing also the Population of

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. 1 | POPULATION AT ALL AGES. Census 1881 2 | POPULATION AT ALL AGES. Estimated to middle of 1887 3 | Registered Births. 4 | MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. At all ages. 5 | Under 1 year. 6 | 1 and under 5. 7 | 5 and under 15. 8 | 15 and under 25. 9 | 25 and under 60. 10 | 60 and upwds. 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pulborough Parish. | 1808 | 1810 | 58 | 19 | 3 | 2 | — | — | 6 | 8 | Under<br>........<br>5 upw |
| Rest of Pulborough Sub. Dis. | 2080 | 2100 | 52 | 28 | 6 | 1 | 2 | 1 | 5 | 13 | Under<br>........<br>5 upw |
| Storrington Parish. | 1351 | 1300 | 32 | 25 | 3 | 5 | — | 3 | 6 | 8 | Under<br>........<br>5 upw |
| Rest of Washington Sub. Dis. | 3046 | 3040 | 103 | 37 | 6 | 5 | 4 | 2 | 6 | 14 | Under<br>........<br>5 upw |
| Thakeham Workhouse | | | | 14 | 1 | — | — | — | 3 | 10 | Under<br>........<br>5 upw |
| | | | | | | | | | | | Under<br>........<br>5 upw |
| | | | | | | | | | | | Under<br>........<br>5 upw |
| | | | | | | | | | | | Under<br>........<br>5 upw |
| | | | | | | | | | | | Under<br>........<br>5 upw |
| | | | | | | | | | | | Under<br>........<br>5 upw |
| | | | | | | | | | | | Under<br>........<br>5upwd |
| TOTALS .................. | 8285 | 8250 | 245 | 123 | 19 | 13 | 6 | 6 | 26 | 53 | Under<br>........<br>5 upw |
| Deaths occurring outside the district among persons belonging thereto.......................... | | | | | | | | | | | Under<br>........<br>5 upw |
| Deaths occurring within the District among persons not belonging thereto .............. | | | | | | | | | | | Under<br>........<br>5 upw |

rict of THAKEHAM, classified according to Diseases, Ages, Localities
lities, and the Births therein during the year.

ORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Cont Fevers | | | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typhus. | Enteric or Typhoid | Other or Doubtful | | | | | | | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| | | | 1 | | | | | | | | | | | | 3 | | | 1 |
| | | | | | 1 | | | | | | | | | 3 | 2 | 2 | | 6 |
| | | | | | | | | | | | | | | | | | | 7 |
| | | | | | | | | | | | | | | 3 | 3 | 5 | 2 | 8 |
| 1 | | | | | | | | | | | | | | | 3 | | | 4 |
| | | | | | 1 | | | | | 1 | | | | 4 | | 2 | 2 | 7 |
| | 1 | | | | | | | | | | | | | | 3 | | | 7 |
| | 3 | | | | 2 | | 1 | | | | | | | 1 | 3 | 3 | 1 | 12 |
| | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | 1 | | | | | | | 3 | 1 | | | 8 |
| | | | | | | | | | | | | | | | | | | |
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| 1 | 1 | | 1 | | | | | | | | | | | | 9 | | | 20 |
| | 3 | | | | 4 | | 2 | | | 1 | | | | 14 | 9 | 12 | 5 | 41 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

**TABLE B.**—Showing the New Cases of Sickness coming to the knowledg
District of THAKEHAM, class

| NAMES OF LOCALITIES. 1 | NEW CASES OF SICKNESS IN PERSONS BELON 12 | Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping Cough 18 |
|---|---|---|---|---|---|---|---|
| Pulborough Parish. | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Rest of Pulborough S. D. | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Storrington Parish. | Under 5 | | | 2 | | | |
| | 5 upwds. | | | 9 | | | |
| Rest of Washington S. D. | Under 5 | | 5 | | | | |
| | 5 upwds. | | 11 | | 1 | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Totals | Under 5 | | 5 | 2 | | | |
| | 5 upwds. | | 11 | 9 | 1 | | |

Sources of Information : In Workhouse and Workh
In-patients of Wort

Medical Officer of Health, during the year 1887, in the Rural Sanitary
rding to Localities and Diseases.

HE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS

| ers. | | | | | | | | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. | |
|---|---|---|---|---|---|---|---|---|---|
| Other or Doubtful | Diarrhœa and Dysentery | Cholera | Rheumatic Fever | Erysipelas | Pyæmia | Puerperal Fever | Ague | | |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | | |
| ...... | ...... | .... | ...... | ...... | ...... | ...... | ...... | ........... | ........... |
| .... | ..... 2 | .... | .... | ... .. 1 | .... | .... | .... | ........... | ........... |
| ..... | ..... | ..... | .... | .... | ..... | ..... | .... | ........... | ........... |
| ...... | ...... | ..... | ...... | ..... | .... | ..... | ..... | ........... | ........... |
| ...... | ...... | .... | ... | ...... | ..... | ..... | .... | ........... | ........... |
| ...... | .... | ..... | ..... | ..... | ..... | ...... | ..... | ........... | ........... |
| ...... | ..... | .... | ..... | ..... | ...... | ..... | ..... | ........... | ........... |
| ...... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ........... | ........... |
| ...... | ..... | ..... | ..... | .... | ..... | ..... | .... | ........... | ........... |
| ..... | ..... | ..... | ...... | .... | ..... | ...... | .... | ........... | ........... |
| .. .. | ..... | . .. | ..... | .... | ..... | .... | ..... | ........... | ........... |
| ...... | ..... 2 | ..... | ...... | .. ... 2 | ..... | ...... | .. .. | ........... | ........... |

rmary, 56. Among the Out-door Paupers, 142.
rmary, 13 ; Out-patients, 34.

# RURAL SANITARY DISTRICT OF EAST PRESTON.

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Population, 7,680 in 1871; 8,025 in 1881. Area in Acres, 30,696. No. of Houses, 1,467 in 1871; 1,662 in 1881.

During the year 1887 the births of 241 children and the deaths of 114 persons were registered; of the births, 114 were male and 127 were female; of the deaths, 64 were male and 50 were female.

There were 137 deaths registered in the rural sanitary district, but 23 of these occurred in the East Preston Workhouse and belonged to places outside of the district, viz, Worthing 9, Littlehampton 7, and Arundel 7. These 23 deaths are therefore included in the reports of those sanitary districts. There were also eight other deaths in the Workhouse of persons belonging to this district, and these have been distributed among the several parishes whence each inmate came, viz., Broadwater 1, West Tarring 2, Clapham 1, Leominster 2, Rustington 1, Poling 1; in all—8.

In each parish the deaths were thus distributed:—Broadwater 14, Heene 4, West Tarring 14, Clapham 6, Durrington 2, Goring 7, Ferring 5, Kingston 1, East Preston 5, Angmering 6, Leominster 18, Rustington 4, Climping 0, Ford 0, Tortington 3, Poling 2, Patching 2, Angmering (north) 0, Warningcamp 4, Leominster (north) 8, Burpham 3, South Stoke 3, Houghton 3; in all—114.

During the past ten years there have been 2454 births and 1200 deaths, so that the natural increase of population during this period by excess of births over deaths is therefore 1254. The births were twice as numerous as the deaths. The estimated increase of the population during the same period is rather more than 1000.

In October, 1883, Angmering north (28 houses and 130 persons), and Leominster north (85 houses and 413 persons), were transferred from the Littlehampton sub-district, to the Arundel sub-district and the tables appended have been altered in accordance with this change; there is no alteration in the Worthing sub-district.

The births and deaths in the whole of the district during the past ten years have been as follows :—

| Year. | | Birth. | Birth-rate. | Deaths. | Death-rate. |
|---|---|---|---|---|---|
| 1878 | .. | 235 | 30·4 | 131 | 16 9 |
| 1879 | .. | 234 | 30·0 | 125 | 15·9 |
| 1880 | .. | 256 | 32·2 | 121 | 15·2 |
| 1881 | .. | 233 | 28·8 | 128 | 15·8 |
| 1882 | .. | 266 | 32·3 | 97 | 11·7 |
| 1883 | .. | 262 | 31·4 | 130 | 15·6 |
| 1884 | .. | 247 | 29·5 | 116 | 13·8 |
| 1885 | .. | 234 | 27·4 | 132 | 15·4 |
| 1886 | .. | 246 | 28·5 | 106 | 12·3 |
| 1887 | .. | 241 | 27·5 | 114 | 13·0 |

In each quarter the births and deaths were as follows :—

| | | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|---|
| | | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter | .. | 27 | 27 | 54 | 18 | 8 | 26 |
| 2nd ,, | .. | 28 | 29 | 57 | 16 | 7 | 23 |
| 3rd ,, | .. | 22 | 34 | 56 | 17 | 15 | 32 |
| 4th ,, | .. | 37 | 37 | 74 | 13 | 20 | 33 |
| Total | | 114 | 127 | 241 | 64 | 50 | 114 |

A comparative statement of the births in each quarter during a term of ten years shows that the mean number varies very slightly :—

| | | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|---|
| 1st Quarter | .. | 496 | 62 | 54 | 612 | 61·2 |
| 2nd ,, | .. | 478 | 63 | 57 | 598 | 59·8 |
| 3rd ,, | .. | 508 | 62 | 56 | 626 | 62·6 |
| 4th ,, | .. | 485 | 59 | 74 | 618 | 61·8 |
| Total | .. | 1967 | 246 | 214 | 2454 | 245·4 |

The following table shows the birth-rate in each sub-district during the last ten years :—

| | | 1878-84. | 1885. | 1886. | 1887. | Mean. |
|---|---|---|---|---|---|---|
| Worthing Sub-Dis. | | 30·8 | 25·0 | 25·5 | 29·8 | 29·6 |
| Littlehampton | ,, | 30·8 | 31·9 | 27·6 | 26·6 | 30 2 |
| Arundel | ,, | 30·0 | 23·5 | 35·0 | 25·8 | 29·4 |
| Total | .. | 30·8 | 27·4 | 28·5 | 27·5 | 29·9 |

The birth-rate in 1887 throughout England and Wales was 31·4 per 1000 persons living ; it was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2·6 below the mean annual rate in the ten years, 1877-86.

The deaths at different groups of ages are here shown :—

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 2 | 1 | 4 | 2 | 3 | 14 | 26 |
| 2nd ,, .. | 2 | 1 | 1 | 3 | 3 | 13 | 23 |
| 3rd ,, .. | 3 | 2 | 3 | 4 | 9 | 11 | 32 |
| 4th ,, .. | 3 | 1 | 2 | 2 | 9 | 16 | 33 |
| Total | 10 | 5 | 10 | 11 | 24 | 54 | 114 |

A comparative statement of the deaths in each quarter during the past ten years shows that the deaths are most numerous in the first quarter of the year.

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .... | 283 | 31 | 26 | 340 | 34·0 |
| 2nd ,, .... | 217 | 28 | 23 | 268 | 26·8 |
| 3rd ,, .... | 229 | 26 | 32 | 287 | 28·7 |
| 4th ,, .... | 251 | 21 | 33 | 305 | 30·5 |
| Total .... | 980 | 106 | 114 | 1200 | 120·0 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

| | Births. | Deaths under 1 year, | Ratio to 1000 Births. |
|---|---|---|---|
| Worthing Sub-District........ | 98 | 4 | 41 |
| Littlehampton ,, ........ | 92 | 5 | 54 |
| Arundel ,, ........ | 51 | 1 | 20 |
| Total ............... | 241 | 10 | 41 |

The rate of infant mortality throughout England and Wales in 1887 was equal to 145 per 1000, against a rate of 137, 147, 138, and 149 in the four preceding years.

The following table shows the rate of infant mortality in each sub-district during the last ten years; in each locality the rate is low :—

| | 1878-84. | 1885. | 1886. | 1887. | Mean. |
|---|---|---|---|---|---|
| Worthing Sub-District | 95 | 50 | 97 | 41 | 85 |
| Littlehampton ,, | 82 | 101 | 53 | 54 | 78 |
| Arundel ,, | 81 | 87 | 86 | 20 | 88 |
| Total ........ | 89 | 81 | 77 | 41 | 82 |

The 10 *infantile* deaths in 1887 included two from diarrhœa, one from meningitis, four from convulsions, two from debility, and one from marasmus.

The deaths from zymotic disease were nine in number against 14, 1, 16, 20, 7, 9, 11, 8, and 14 in the nine preceding years.

The nine deaths included one from scarlatina, five from diarrhœa, one from enteric fever, and two from diphtheria.

The rate of mortality from these diseases was 1·0 per 1000 persons living, against a rate of 1·8, 0·1, 2·0, 2·4, 0·8, 1·0, 1·3, 0.9, and 1.6 in the nine preceding years.

In the past ten years there have been altogether 109 deaths in this class of disorders, or a mean annual death-rate of 1.3 per 1000.

*Measles* prevailed in various places, but there were no deaths from this cause. In November it appeared at Clapham and the school attendance being reduced from 70 to 25, the school was closed for a fortnight. One child amongst the number attacked was seen on one occasion by a medical man, but all the rest recovered without having any medical attendance,

*Scarlatina* appeared in a few isolated houses at Warningcamp and Rustington, but the cases were very mild and there was no spread of the disease. In one lonely cottage two children fell ill with the fever on November 21st and November 25th respectively, and the mother was confined on November 27th, at a time when the rash of scarlet fever was well out on the children; she did very well and she recovered as soon as usual. It frequently happens that when scarlatina is prevalent women who have been recently confined are in much danger of puerperal fever, or of some form of blood poisoning, but there are many cases like the previous one, where no evil effects follow. It is important to find out, when possible, if those who suffer so severely have ever had scarlet fever when young.

One death was registered at Rustington as due to scarlatina. Gilbert W., 14 years old, was at work on a farm on Nov. 19th, he was taken ill on Nov. 20th with a sore throat and diarrhœa, and he died suddenly on Nov. 22nd. The parents and two other young children escaped. The house was one of a group of four, and three of them had been recently built. Each cottage was well constructed, dry, and clean. The only defect was due to the sink trap being inside the house, and this was at once remedied.

*Diphtheria* caused two deaths, but it never prevailed in an epidemic form. Mrs N., 65 years old, was taken ill with a sore throat on April 22nd, and, becoming worse, she died on April 26th. She caught cold by attending the funeral of a friend on April 22nd, the weather being very cold at the time. There were two other inmates in the house, but they were not attacked, nor were there any other cases in the village. The cottage was very clean and neat and surrounded by a garden; there were no drains inside the house. The second death was in a private house also free from sanitary defects. The son, 7 years old, was attacked on July 25th and he died on August 4th. There was no spread of the disease.

*Enteric fever* caused one death. Alice G., 20 years old, lived in a private house as housemaid; she was taken ill about July 25th and she was sent in a cab to her parents' home at Clapham on August 1st, where she arrived in an exhausted condition, and on August 11th she died. The house whence she came was semi-detached, well-built, and in good sanitary condition; it was occupied by a lady and one other servant. The cottage at Clapham was occupied by the parent and two other daughters, but there was no spread of the disease.

### WEST TARRING.

A Local Government inquiry was held here on September 29th, by Major-General Carey in reference to the constitution of a special drainage district of part of the parish of West Tarring and for sanction to borrow £700 for works of sewerage for such special drainage district. The area of the whole parish is 915 acres, and the area of the proposed district is 820 acres. The rateable value of the whole parish is about £5000, and that of the proposed area, £3764. There are 150 houses within, and about 35 outside the proposed area. The sewerage from West Tarring was to be taken to sea, through the main sewer of the Worthing Local Board. The East Preston Rural, and the Worthing Urban, Sanitary Authorities had agreed on the proposed area, but the latter body was unwilling to extend the area to the whole parish on the ground that their main sewer would not carry off all the storm or surface water which would flow through it when this new scheme was carried out. The result of the inquiry was that the area must be extended so as to include the whole parish, and the matter will probably be carried out in the coming year, as it is important something should be done.

Most of the villages in the Worthing and Littlehampton sub-districts are on nearly level ground between the South Downs and the sea, and they are much exposed to wet south-west winds; the soil here is chiefly of a loomy nature and adapted for making bricks. The surface slopes gently to the south, and the rain runs or soaks away readily after a storm, so that this may be classed as a moderately previous soil. The villages in the Arundel sub-district are on the chalk and they are therefore on elevated ground which is high, dry and pervious. The effect of soil upon the three following diseases is here shown :—

| SOIL. | Population in middle of the period. | Death-rate in 1876-85 per 100,000 living from<br>Phthisis. | <br>Lung-disease. | <br>Diphtheria. |
|---|---|---|---|---|
| Pervious ...... | 1560 | 1154 | 1410 | — |
| Moder. pervious | 6465 | 1609 | 2135 | 387 |
| Total...... | 8025 | 1520 | 1994 | 311 |

The following summary shows the condition of this district during three decades, so far as it can be told by means of death-rates.

The figures show a marked improvement in recent years over the rates which prevailed twenty and thirty years ago :—

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1878-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1790 | 1822 | 1461 |
| Zymotic " ......... | 335 | 209 | 133 |
| Phthisis " ......... | 297 } 463 | 259 } 418 | 135 } 340 |
| Lung Disease ......... | 166 | 221 | 205 |
| 15 *to* 55 *years.*<br>Phthisis Death-rate ......... | 419 mean<br>445 female | 417 mean<br>393 female | 226 mean<br>233 female |
| Lung Disease Death-rate ... | 46 mean<br>34 female | 61 mean<br>48 female | 82 mean<br>66 female |
| Under 1 year .................. | ? | 11022 | 8978 |
| Under 5 years ........ ...... | 3967 | 4086 | 2755 |

*Inquests* were held in ten cases :—Male, 3 months, natural causes, convulsions ; male, 53 years, accidental fall from a window ; male, 14 years, accidentally run over by a waggon ; male, 43 years, natural causes, internal hæmorrhage ; male, 16 years, accidental fall from a waggon ; male, 71 years, suicide by drowning whilst insane ; male, 2 months, natural causes, convulsions ; female, 66 years, cancer and congestion of the lungs ; male, 76 years, accidental fall ; female, 17 years, suicide by drowning.

There were five deaths returned as " not certified " out of a total of 114 deaths :—Male, 75 years, heart disease, old age ; male, 79 years, natural causes, probably a fit ; female, 78 years, heart disease ; female, 51 years, heart disease ; male, 43 years, pneumonia.

There were five deaths among illegitimate children out of a total of 241 births:—One in Worthing sub-district, female, 26 days, inanition from birth, certified; one in Littlehampton sub-district, male, 2 months, convulsions, certified; three in Arundel sub-district, male, 3 months, debility from birth, certified; male, 14 years, enteritis, certified; female, 10 years, meningitis, certified.

A few cases of overcrowding have been dealt with during the year, and the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses have been inspected at intervals and they have been kept in a cleanly state.

The slaughter-houses have been well kept.

There is no common lodging-house in the district.

No proceedings were taken before the Magistrates during the year.

## EAST PRESTON RURAL SANITARY DISTRICT.

Table 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 ………………… | 131 | 22 | 18 | 3 | 6 | 27 | 55 |
| 1879 ………………… | 125 | 24 | 6 | 5 | 8 | 27 | 55 |
| 1880 ………………… | 121 | 27 | 9 | 6 | 3 | 31 | 45 |
| 1881 ………………… | 128 | 22 | 5 | 13 | 7 | 28 | 53 |
| 1882 ………………… | 97 | 15 | 14 | 3 | 5 | 25 | 35 |
| 1883 ………………… | 130 | 21 | 11 | 5 | 4 | 34 | 55 |
| 1884 ………………… | 116 | 23 | 12 | 7 | 4 | 30 | 40 |
| 1885 ………………… | 132 | 19 | 11 | 7 | 8 | 30 | 57 |
| 1886 ………………… | 106 | 19 | 15 | 4 | 1 | 21 | 46 |
| 1887 ………………… | 114 | 10 | 5 | 10 | 11 | 24 | 54 |
| Total………………… | 1200 | 202 | 106 | 63 | 57 | 277 | 495 |
| In 1,000 Deaths …… | 1000 | 168 | 88 | 52 | 48 | 231 | 415 |

Table 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Total. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | … | … | 2 | 2 | 4 | … | 1 | … | 5 | … | … | … | … | 14 | 1·8 |
| 1879 | … | … | … | … | … | … | 1 | … | … | … | … | … | … | 1 | 0·1 |
| 1880 | … | 1 | 1 | 2 | 2 | … | 3 | … | 6 | .. | 1 | .. | … | 16 | 2·0 |
| 1881 | … | … | 5 | 9 | 1 | … | … | … | 1 | 2 | 1 | … | 1 | 20 | 2·4 |
| 1882 | … | … | … | 1 | 5 | … | 1 | … | … | … | … | … | … | 7 | 0·8 |
| 1883 | … | 6 | … | 1 | … | … | … | … | 2 | … | … | … | … | 9 | 1·0 |
| 1884 | … | 2 | 2 | 4 | … | … | … | … | 2 | … | 1 | … | … | 11 | 1·3 |
| 1885 | … | 1 | 1 | 2 | 2 | … | … | … | 2 | … | … | … | … | 8 | 0·9 |
| 1886 | … | … | 2 | 2 | 4 | … | … | … | 6 | … | … | … | … | 14 | 1·6 |
| 1887 | … | .. | 1 | 2 | … | … | 1 | … | 5 | … | … | … | .. | 9 | 1·0 |
| Tl. | … | 10 | 14 | 25 | 18 | … | 7 | … | 29 | 2 | 3 | … | 1 | 109 | 1·3 |

# EAST PRESTON RURAL SANITARY DISTRICT.

Table 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 10 years 1878-87.

| PARISH. | | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. | | | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Typhus. | Enteric or Typhoid | Other or doubtful. | | | | | | |
| Worthing Sub-Dist. | Broadwater ... | 1100 | ... | 3 | 8 | 2 | 2 | ... | 2 | ... | 5 | 1 | ... | ... | 1 | 24 |
| | Heene ......... | 150 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | West Tarring... | 850 | ... | 1 | ... | ... | 3 | ... | ... | ... | 5 | ... | 1 | ... | ... | 10 |
| | Clapham......... | 240 | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | 3 |
| | Durrington ... | 180 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Goring ......... | 540 | ... | 3 | 1 | 9 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 13 |
| | Ferring ......... | 230 | ... | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 3 |
| Littlehampton Sub-Dist. | Kingston ...... | 40 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — |
| | East Preston ... | 440 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| | Angmering ... | 1020 | ... | ... | ... | 3 | 2 | ... | ... | ... | 3 | ... | ... | ... | ... | 8 |
| | Leominster...... | 1200 | ... | ... | 2 | 4 | 4 | ... | ... | ... | 11 | ... | 1 | ... | ... | 22 |
| | Rustington...... | 370 | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| | Climping ...... | 280 | ... | 1 | ... | 3 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 5 |
| | Ford ............ | 100 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Arundel Sub-Dist. | Tortington ...... | 250 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 |
| | Poling............ | 180 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 2 |
| | Patching......... | 280 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Angmering N. | 420 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Warningcamp | 130 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 2 |
| | Leominster N. | 130 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 |
| | Burpham ...... | 290 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 2 |
| | South Stoke ... | 135 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Houghton ...... | 185 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| Whole District ... | | 8740 | .. | 10 | 14 | 25 | 18 | ... | 7 | ... | 29 | 2 | 3 | | 1 | 109 |

## EAST PRESTON SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| Worthing Sub-Dis. ... | 3000 | 481 | 55 | 43 | 71 | 47 | 1603 | 183 | 143 | 237 | 157 |
| Littlehampton Sub-Dis. | 3360 | 414 | 41 | 38 | 55 | 37 | 1232 | 122 | 113 | 164 | 110 |
| Arundel Sub-Dis. ...... | 1920 | 305 | 13 | 30 | 43 | 35 | 1588 | 67 | 156 | 224 | 182 |
| Whole District ......... | 8280 | 1200 | 109 | 111 | 169 | 119 | 1461 | 133 | 135 | 205 | 144 |
| In 1878.................. | 7710 | 131 | 14 | 17 | 18 | 11 | 1699 | 181 | 220 | 233 | 142 |
| In 1879.................. | 7832 | 125 | 1 | 7 | 19 | 12 | 1596 | 12 | 89 | 242 | 153 |
| In 1880.. ............... | 7955 | 121 | 16 | 15 | 15 | 9 | 1521 | 201 | 188 | 188 | 113 |
| In 1881.................. | 8080 | 128 | 20 | 12 | 15 | 15 | 1584 | 247 | 148 | 185 | 185 |
| In 1882.................. | 8230 | 97 | 7 | 8 | 14 | 14 | 1178 | 85 | 97 | 170 | 170 |
| In 1883.................. | 8330 | 130 | 9 | 9 | 13 | 14 | 1560 | 108 | 108 | 156 | 168 |
| In 1884 ................. | 8350 | 116 | 11 | 13 | 17 | 10 | 1389 | 131 | 155 | 203 | 119 |
| In 1885.................. | 8530 | 132 | 8 | 12 | 25 | 9 | 1547 | 93 | 140 | 293 | 105 |
| In 1886.................. | 8610 | 106 | 14 | 9 | 19 | 8 | 1231 | 162 | 104 | 220 | 93 |
| In 1887.................. | 8740 | 114 | 9 | 9 | 14 | 17 | 1304 | 103 | 103 | 160 | 194 |

**TABLE A.**—Showing the Deaths during the year 1887, in the Rural Sanit
and showing also the Population of s

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | POPULATION AT ALL AGES. | | Registered Births. | MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CENSUS 1881 | Estimated to middle of 1887 | | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Worthing S.D. | 2910 | 3290 | 98 | 47 | 4 | 3 | 4 | 4 | 10 | 22 | Under 5.<br>5 upwds |
| Littlehampton S.D. | 3753 | 3450 | 92 | 32 | 5 | 2 | 2 | 1 | 8 | 14 | Under 5.<br>5 upwds |
| Arundel S.D. | 1362 | 2000 | 51 | 26 | 1 | — | 4 | 5 | 5 | 11 | Under 5.<br>5 upwds |
| East Preston Workh. | — | — | — | 31 | | | | 1 | 5 | 25 | Under 5.<br>5 upwds |
| Worthing Infirmary | — | — | — | 1 | | | | 1 | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5upwds |
| TOTALS ................ | 8025 | 8740 | 241 | 137 | 10 | 5 | 10 | 12 | 28 | 72 | Under 5.<br>5 upwds |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Deaths occurring outside the district among persons belonging thereto..... ..................... | 1 | | | | 1 | | | Under 5<br>5 upwds |
| Deaths occurring within the District among persons not belonging thereto ...... . ......... | 23 | | | | 1 | 4 | 18 | Under 5.<br>5 upwds |

istrict of EAST PRESTON, classified according to Diseases, Ages, Localities
ocalities, and the Births therein during the year.

Mortality from Subjoined Causes, Distinguishing Deaths of Children under Five Years of Age.

| Scarlatina. 15 | Diphtheria. 16 | Croup (not "spasmodic") 17 | Whooping Cough. 18 | Cont Fevers | | | Diarrhœa and Dysentery. 22 | Cholera. 23 | Rheumatic Fever. 24 | Erysipelas. 25 | Pyæmia. 26 | Puerperal Fever. 27 | Ague. 28 | Phthisis. 29 | Bronchitis, Pneumonia, & Pleurisy. 30 | Heart Disease 31 | Injuries. 32 | Other Diseases 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typhus. 19 | Enteric or Typhoid 20 | Other or Doubtful 21 | | | | | | | | | | | | |
| | | | | | | | 1 | | | | | | | | 1 | | | 5 |
| | 1 | | | | 1 | | 1 | | | | | | | 4 | 4 | 6 | 4 | 19 |
| | | | | | | | 3 | | | | | | | | | | | 4 |
| 1 | | | | | | | | | | | | | | 3 | 4 | 6 | 1 | 10 |
| | | | | | | | | | | | | | | | | | | 1 |
| | 1 | | | | | | | | | | | | | 1 | 4 | 5 | 2 | 12 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 2 | 6 | 1 | | 22 |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | 4 | | | | | | | 1 | | | 10 |
| 1 | 2 | | | | 1 | | | 1 | | | | | | 10 | 18 | 18 | 7 | 64 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1 | 5 | 1 | | 23 |

Table B.—Showing the New Cases of Sickness coming to the knowledge
District of EAST PRESTON, classi

| Names of Localities. | | New Cases of Sickness in Persons Belong | | | | | |
|---|---|---|---|---|---|---|---|
| | | Smallpox | Measles | Scarlatina | Diphtheria | Croup (not spasmodic) | Whooping Cough |
| 1 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Worthing S.D. | Under 5 | | | 1 | | | 5 |
| | 5 upwds. | | | 1 | | | 1 |
| Littlehampton S. D. | Under 5 | | 7 | 2 | | | |
| | 5 upwds. | | 10 | 3 | | | |
| Arundel S.D. | Under 5 | | 7 | | | | |
| | 5 upwds. | | 2 | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Totals | Under 5 | | 14 | 3 | | | 5 |
| | 5 upwds. | | 12 | 4 | | | 1 |

Sources of Information : In Workhouse and Workho
In-patients of Worthi

Medical Officer of Health, during the year 1887, in the Rural Sanitary
ording to Localities and Diseases.

THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS

| ers. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other or Doubtful 21 | Diarrhœa and Dysentery 22 | Cholera 23 | Rheumatic Fever 24 | Erysipelas 25 | Pyæmia 26 | Puerperal Fever 27 | Ague 28 | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. |
| ...... | 3<br>......<br>6 | .... | ...... | ......<br>1 | ...... | ...... | ...... | ...................... |
| ...... | 2<br>......<br>8 | ..... | ..... | ....<br>1 | ..... | ..... | ..... | ...................... |
| ..... | ......<br>1 | ...... | ..... | .... | ..... | ..... | .... | ...................... |
| ..... | ...... | ..... | ..... | ..... | ..... | ..... | ..... | ...................... |
| ...... | ...... | .... | .. | ...... | .... | ..... | .... | ...................... |
| ..... | ..... | ..... | ..... | .... | ..... | ..... | ..... | ...................... |
| ...... | .... | .... | .... | ..... | ...... | ..... | .... | ...................... |
| ...... | ...... | ..... | ...... | ...... | ...... | .... | ..... | ...................... |
| ...... | ...... | ...... | ...... | ..... | ...... | ...... | ...... | ...................... |
| ..... | ..... | ...... | ...... | .... | .... | ..... | ..... | ...................... |
| ... | ..... | .... | ..... | .... | .... | ..... | ...... | ...................... |
| .... | 5<br>......<br>15 | ...... | ...... | .. ..<br>2 | ...... | ...... | .. .. | ...................... |

ary. 21. Among the Out-door Paupers, 413.
ary, 24 ; Out-patients, 296.

## RURAL SANITARY DISTRICT OF MIDHURST.

Population, 13,042 in 1871; 13,933 in 1881. Area in Acres, 66,571. No. of Houses, 2,623 in 1871; 2,797 in 1881.

During the year 1887 the births of 345 children and the deaths of 219 persons were registered; of the births 170 were male and 175 were female; of the deaths, 105 were male, and 114 were female.

There were 12 deaths in Easebourne Workhouse. and these have been distributed among the several parishes whence each inmate came, viz.: Tillington 2, Lodsworth 3, Cocking 2, Midhurst 1, Easebourne 1, Trotton 1, Rogate 2; in all—12.

The deaths in each parish were thus distributed: East Lavington 4, West Lavington 2, Tillington 25, Lodsworth, 9, Selham 0, Heyshott, 6, Graffham 14, Cocking 9, Midhurst 30, Woolbeding 2, Easebourne 14, South Ambersham 1, North Ambersham 4, Lurgashall 11, Fernhurst 16, Linchmere 5, Linch 1, Stedham 6, Iping 10, Trotton 9, Chithurst 2, Terwick 2, Rogate 13, Harting 16, Elsted 3, Treyford 3, Didling 1, Bepton 1; in all—219.

The births and deaths in the whole of the district during the past ten years have been as follows:—

| Year. | Birth. | Birth-rate. | Deaths. | Death-rate. |
|---|---|---|---|---|
| 1878 .. | 419 | 30 6 | 222 | 16 2 |
| 1879 .. | 414 | 30·0 | 233 | 16·8 |
| 1880 .. | 424 | 30·5 | 198 | 14·2 |
| 1881 .. | 412 | 29·4 | 205 | 14·6 |
| 1882 .. | 438 | 31·0 | 240 | 17·0 |
| 1883 .. | 402 | 28·4 | 188 | 13·2 |
| 1884 .. | 419 | 29·1 | 230 | 16·0 |
| 1885 .. | 406 | 28·0 | 233 | 16 0 |
| 1886 .. | 419 | 28·6 | 243 | 16·5 |
| 1887 .. | 345 | 23·4 | 219 | 14·9 |

During the past ten years there have been 4098 births and 2211 deaths, so that the natural increase of population by excess of births over deaths is, therefore, 1887. The estimated increase of the population during the same period is 1000, so that considerable numbers must have migrated into other districts.

In each quarter the births and deaths were as follows :—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .. | 35 | 46 | 81 | 26 | 34 | 60 |
| 2nd ,, .. | 45 | 37 | 82 | 25 | 32 | 57 |
| 3rd ,, .. | 52 | 46 | 98 | 25 | 26 | 51 |
| 4th ,, .. | 38 | 46 | 84 | 29 | 22 | 51 |
| Total | 170 | 175 | 345 | 105 | 114 | 219 |

The births appear to be most numerous in the first quarter of the year :—

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 945 | 117 | 81 | 1143 | 114·3 |
| 2nd ,, .. | 808 | 117 | 82 | 1007 | 100·7 |
| 3rd ,, .. | 822 | 92 | 98 | 1012 | 101·2 |
| 4th ,, .. | 759 | 93 | 84 | 936 | 93·6 |
| Total .. | 3334 | 419 | 345 | 4098 | 409·8 |

The following table shows the birth-rate in different localities during the last ten years :—

| | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| Midhurst Parish | 26·4 | 29·1 | 21·1 | 26·1 |
| Rest of Midhurst Sub-dis | 29·2 | 31·3 | 19·8 | 28·5 |
| Fernhurst ,, | 31·4 | 24·8 | 25·2 | 30·2 |
| Harting ,, | 30·2 | 27·4 | 26·4 | 29·5 |
| Total .. .. | 29·6 | 28·6 | 23·4 | 28·9 |

The birth-rate in 1887 throughout England and Wales was equal to 31·4 per 1000 persons estimated to be living in the middle of the year ; it was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2 6 below the mean annual rate in the ten years, 1877-86.

The deaths at different groups of ages are here shown :—

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 6 | 4 | 7 | 5 | 14 | 24 | 60 |
| 2nd ,, .. | 10 | 5 | 1 | 3 | 9 | 29 | 57 |
| 3rd ,, .. | 4 | 5 | 1 | 4 | 11 | 26 | 51 |
| 4th ,, .. | 3 | 4 | 1 | 2 | 16 | 25 | 51 |
| Total | 23 | 18 | 10 | 14 | 50 | 104 | 2 9 |

A comparative statement of the deaths in each quarter during the past ten years shows that the deaths are most numerous in the first quarter of the year.

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .... | 513 | 75 | 60 | 648 | 64 8 |
| 2nd ,, .... | 464 | 61 | 57 | 582 | 58·2 |
| 3rd ,, .... | 395 | 45 | 51 | 491 | 49·1 |
| 4th ,, .... | 377 | 62 | 51 | 490 | 49·0 |
| Total .... | 1749 | 243 | 219 | 2211 | 221·1 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

| | Births. | Deaths under 1 year, | Ratio to 1000 Births. |
|---|---|---|---|
| Midhurst Parish ............ | 37 | 4 | 108 |
| Rest of Midhurst Sub-district.. | 108 | 7 | 65 |
| Fernhurst ,, | 68 | 5 | 73 |
| Harting ,, | 132 | 7 | 53 |
| Total ............... | 345 | 23 | 66 |

The rate of infant mortality in 1887 throughout England and Wales was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years.

The 23 *infantile* deaths in 1887 included one from diarrhœa, three from convulsions, three from bronchitis, one from. laryngitis, ten from debility, and two from marasmus; three infants were born prematurely.

The following table shows the rate of infant mortality in different localities during the past ten years :—

| | 1878-85. | 1886. | 1887. | Mean. |
|---|---|---|---|---|
| Midhurst Parish............ | 100 | 78 | 108 | 100 |
| Rest of Midhurst S.D. ...... | 81 | 124 | 65 | 84 |
| Fernhurst Sub-district ...... | 88 | 113 | 73 | 89 |
| Harting Sub-district ........ | 92 | 109 | 53 | 89 |
| Total................ | 89 | 112 | 66 | 89 |

The deaths from *zymotic* disorders were 10 in number against 23, 12, 9, 19, 32, 16, 18, 25 and 30 in the nine preceding years, The rate of mortality from these disorders was equal to 0·6 per 1000 persons living, against a rate of 1·6, 0·8, 0·6, 1·3, 2·2 1·1, 1·2, 1·7, and 2·0 in the nine preceding years. In the past ten years there have been altogether 194 deaths from this class of disorders, or a mean annual rate of 1·3 per 1000.

*Diphtheria* caused one death. At Lower Lodge, Fernhurst, there are four well-built cottages close together. In each cottage there were two living rooms and three bedrooms, and there were no drains inside the house. To each cottage there was a large garden, and there was a closet in each garden at some little distance from the dwelling. In one cottage occupied by a married couple with no children there was no illness. The next cottage was occupied by a married couple and four young children; two of these children had sore throats in February but they recovered. In the third cottage there lived the parents and four young children, but they were not attacked. In the fourth cottage occupied by a man with his wife and five young children there were three cases of illness.

Frederick, 6 years old, went with his mother to Liphook on January 24th when the weather was very cold; and on February 3rd he fell ill with a sore-throat; up to this date he had attended Fernhurst school. He became worse and he died on February 18th, the causes of death being put down as whooping-cough, ulcerated throat and croup. A younger sister, one year old, was attacked at the end of February, and she died on March 3rd of diphtheria. Another sister, four years old, was poorly for a day or two, and then she recovered. There were no other cases in this group of houses, and there was no further spread of the disease. All the children in these cottages had suffered from whooping-cough since the previous November, and the children in the second house probably caught the disorder from those who were ill in the fourth house, but it is not clear how the first was originated. The mother thought that he had taken cold when he went to Liphook, but ten days elapsed after this before any throat symptoms appeared.

The houses were disinfected and limewashed in due course.

*Enteric fever* caused one death. Matilda B., 14 years old, was in service at a farm at Todham, where in the autumn of 1886 there were three cases of this disease. The girl came home ill to her parents on Christmas Day, 1886, and, becoming worse, she died on January 12th, 1887. When she returned home the parents and five other children lived in the cottage, but on December 26th all the five children were removed to a neighbour's house, while the mother remained to nurse her daughter.

On January 13th the mother fell ill of the same complaint, and a nurse was obtained to look after her. Mrs. B. recovered in due time and there was no further spread of the disease.

This seems to have been a case of one person catching the disorder by direct contact with an infected person, and this does not seem to be at all an uncommon occurrence, though by many it is considered as not likely to happen.

### COCKING.

In April I visited Cocking to enquire into the amount of pollution of the stream which runs through the village. This stream starts from a spring in the Downs close to Mr. Job C.'s house; it then runs in a north-east direction to Brookhouse where it is met by a similar stream springing from the Downs; the stream after running a short course widens out into a mill-pond near Mr. John H.'s, whence it flows in still a north-easterly direction by Bex Mill.

At its very head, this stream, called the Crypt, is somewhat polluted by the presence of dead leaves which fall from the overhanging trees on its course. Some sewage from Mr. Job C.'s farm-yard may flow in wet weather into the Crypt, but now it is absorbed by the earth on its way to the stream. The stream naturally receives on its course any storm water which flows along the roads, and this must always be more or less impure. There is an overflow from a closet at Brookhouse occupied by George W. and owned by Lord E.; also an overflow from a cesspit at the house of Mr. Luther K. In each of these cases, this source of pollution should be stopped. There is also a closet over a ditch in a garden occupied by Frederick M., and owned by Lord E.; in wet weather the contents of this closet would be washed into the stream; this should be stopped, and a small cesspit should be provided, so that the brook cannot be polluted.

From a malthouse belonging to Mr. P., some discoloured water may at times find its way into the brook, but this is of a harmless nature.

Along the Bumblekite Road which leads from the "Bell Inn" to Mr. Luther K.'s house, there is an open ditch which receives dirty water from several houses, and which now requires to be cleaned out. In wet weather the brook must be considerably polluted from this source, but it does not appear that any one drinks the water from the brook for a long distance below this point. Water-cress beds are, however, abundant here and this source of pollution should, therefore, be stopped,

There are about 35 houses in Cocking Village, of which about 24 obtain water from the stream and the rest from wells, In dry weather, the brook above Mr. K.'s has abundance of clear, bright water which would be a fair water for drinking purposes, if the closet at Brookhouse were cut off. In wet weather, the brook must be always more or less polluted from storm water and surface drainage.

Below Mr. K.'s house the water is unfit for use, as it receives at this point a good deal of drainage, and in the mill-pond several ducks are kept, which add to the pollution.

I have analysed some water:—1. from the Crypt spring near Mr. C's, which was of good quality and fit for drinking purposes; 2. from Brookhouse, where the sample was the same in quality as No. 1; and 3. from the mill-pond where there was an excess of organic matter, and where the water is too often liable to impurity to be used for drinking purposes.

In all cases, it would be desirable to boil the water before drinking it, and the use of the stream might altogether be stopped, if wells were dug for the inhabitants.

There does not, however, seem to have been any illness in Cocking from using the brook water, as the mortality here is low, and zymotic disease is rare.

An inspection was made of several other villages and many minor nuisances were removed or abated, but there was nothing of any public interest.

The general health of the district during the year was very good, and there was no epidemic prevalence of any disease.

The following summary shows the condition of this district during three decades, so far as it can be told by means of death-rates.

The figures show a marked improvement in recent years over the rates which prevailed twenty and thirty years ago:—

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1878-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1790 | 1822 | 1461 |
| Zymotic ,, ......... | 335 | 209 | 133 |
| Phthisis ,, ......... | 297 } 463 | 259 } 418 | 135 } 340 |
| Lung Disease ......... | 166 | 221 | 205 |
| 15 *to* 55 *years.*<br>Phthisis Death-rate ......... | 419 mean<br>445 female | 417 mean<br>393 female | 226 mean<br>233 female |
| Lung Disease Death-rate ... | 46 mean<br>34 female | 61 mean<br>48 female | 82 mean<br>66 female |
| Under 1 year .................. | ? | 11022 | 8978 |
| Under 5 years ............... | 3967 | 4086 | 2755 |

The soil of this district is very much like that of Petworth. The Fernhurst sub-district to the north is formed chiefly of Weald Clay, and it corresponds pretty closely to the north sub-district of Petworth.

The greater number of the villages in the rest of the area are on more pervious soils. One line running from Tillington on the east to Rogate on the west is found on the Sandgate and Hythe beds of the Lower Greensand, and another parallel line runs under the Downs on the Upper Greensand formation. Heyshott is the only village on the retentive Gault formation.

The frequency of three diseases occurring among persons dwelling on the different soils is here shown :—

| | | Death-rate in 1876-85 per 1,000,000 living from | | |
|---|---|---|---|---|
| SOIL. | Population in middle of the period. | Phthisis. | Lung-disease. | Diphtheria. |
| Pervious ...... | 11218 | 1622 | 1863 | 107 |
| Retentive ...... | 2716 | 1436 | 2135 | 1068 |
| Total...... | 13934 | 1586 | 1916 | 294 |

*Inquests* were held in six cases :—Male, 36 years, accidentally drowned whilst bathing in a river; male, 39 years, natural causes, pneumonia; male 1½ years, accidentally burnt; male, 38 years, accidental fall; male, 58 years, natural causes, heart disease; male, 2 months, natural causes, bronchitis.

There were three deaths returned as "not certified" out of a total of 219 deaths :—Female, 85 years, probably debility from old age; male, 5 minutes, premature birth; male, 12 hours, convulsions.

There were three deaths of children born out of wedlock out of 345 births :—One in Midhurst sub-district, female, 2 month, marasmus, certified; none in Fernhurst sub-district; two in Harting sub-district, female, 1 year, bronchitis, certified, and a male. 2 months, bronchitis, inquest held.

A few cases of overcrowding have been dealt with during the year, and the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses have been inspected at intervals and they have been kept in a cleanly state.

The slaughter-houses have been well kept.

There is no common lodging-house in the district.

### PROCEEDINGS BEFORE THE MAGISTRATES.

Complaint was made that the Red Lion Inn, Midhurst was used as a common lodging house. Before a house can be registered as a common lodging house, it must be inspected by an officer of the local authority. When the inspector went to the house he was refused admission, whereupon the matter was taken before the Bench at Midhurst, and an order was obtained on February 10th, under sec. 102 of the Public Health Act, 1875 for admission to the premises.

On February 12th, I visited the house with the inspector, and examined the rooms. The place might easily have been adapted for a common lodging house, but the owner preferred to leave off using it for that purpose, so that nothing further was done.

A second case was taken before the Magistrates on September 29th. A nuisance arose because a person would not empty a cess-pit on his premises. An order was made to abate the nuisance, and this was at once done by the owner, who also had to pay 40s. costs.

# MIDHURST RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 ...................... | 222 | 37 | 20 | 21 | 8 | 49 | 87 |
| 1879 .................... | 233 | 40 | 16 | 11 | 8 | 50 | 108 |
| 1880 ...................... | 198 | 38 | 17 | 7 | 11 | 37 | 88 |
| 1881 ...................... | 205 | 34 | 22 | 10 | 9 | 42 | 88 |
| 1882 ...................... | 240 | 53 | 28 | 21 | 10 | 53 | 75 |
| 1883 ...................... | 188 | 27 | 14 | 7 | 13 | 42 | 85 |
| 1884 ...................... | 230 | 38 | 24 | 11 | 16 | 54 | 87 |
| 1885 ...................... | 233 | 32 | 23 | 15 | 17 | 47 | 99 |
| 1886 ...................... | 243 | 47 | 24 | 14 | 12 | 49 | 97 |
| 1887 ...................... | 219 | 23 | 18 | 10 | 14 | 50 | 104 |
| Total...................... | 2211 | 369 | 206 | 127 | 118 | 473 | 918 |
| In 1,000 Deaths ...... | 1000 | 167 | 93 | 58 | 53 | 214 | 415 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | 2 | 4 | ... | 2 | 3 | ... | 4 | 1 | 6 | ... | ... | ... | 1 | 23 | 1·6 |
| 1879 | .. | 1 | ... | 6 | 1 | ... | 1 | ... | 1 | 2 | ... | ... | ... | 12 | 0·8 |
| 1880 | ... | ... | ... | 1 | 4 | ... | ... | ... | 3 | .. | 1 | .. | ... | 9 | 0·6 |
| 1881 | ... | ... | 3 | 4 | 1 | ... | 6 | ... | 1 | 1 | 2 | ... | 1 | 19 | 1·3 |
| 1882 | ... | 5 | 7 | 9 | 6 | ... | 1 | ... | 1 | 1 | 2 | ... | ... | 32 | 2·2 |
| 1883 | 5 | ... | 3 | 2 | 2 | ... | 1 | ... | 3 | ... | ... | ... | ... | 16 | 1·1 |
| 1884 | .. | ... | 7 | 2 | 3 | ... | 2 | ... | 1 | ... | 3 | ... | ... | 18 | 1·2 |
| 1885 | 1 | 2 | 2 | 10 | 1 | ... | ... | ... | 4 | 2 | 3 | ... | ... | 25 | 1 7 |
| 1886 | ... | 8 | ... | 8 | 4 | ... | 7 | ... | 1 | 1 | ... | ... | 1 | 30 | 2·0 |
| 1887 | ... | 2 | ... | 1 | 2 | ... | 1 | ... | 1 | 2 | 1 | ... | .. | 10 | 0·6 |
| Tl. | 8 | 22 | 22 | 45 | 27 | ... | 23 | 1 | 22 | 9 | 12 | ... | 3 | 194 | 1·3 |

# MIDHURST RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 10 years 1878-87.

| | PARISH. | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. | | | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Typhus. | Enteric or Typhoid | Other or doubtful. | | | | | | |
| Midhurst Sub-Dist. | East Lavington | 225 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 3 |
| | West Lavington | 150 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 2 |
| | Tillington ...... | 900 | ... | 3 | 4 | 2 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | 11 |
| | Lodsworth ...... | 710 | ... | 2 | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 5 |
| | Selham ......... | 50 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Heyshott ......... | 460 | ... | ... | ... | 7 | ... | ... | 3 | ... | 1 | 1 | 1 | ... | 1 | 14 |
| | Graffham ...... | 415 | 2 | ... | ... | ... | 3 | ... | ... | ... | ... | 1 | 1 | ... | ... | 7 |
| | Cocking ......... | 600 | ... | ... | ... | ... | 2 | ... | 2 | ... | ... | 1 | 1 | ... | 1 | 7 |
| | Midhurst......... | 1750 | ... | 2 | 1 | ... | 1 | ... | ... | ... | 3 | 1 | 2 | ... | ... | 10 |
| | Woolbeding ... | 365 | ... | ... | ... | 2 | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | 5 |
| | Easebourne...... | 1450 | ... | 1 | ... | ... | 1 | ... | 5 | ... | 2 | 1 | 2 | ... | ... | 12 |
| | South Ambersh | 125 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Fernhurst Sub-Dist. | North Ambersh | 170 | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 |
| | Lurgashall ...... | 740 | ... | 1 | ... | 9 | | ... | ... | ... | 1 | 1 | ... | ... | 1 | 15 |
| | Fernhurst ...... | 1140 | ... | 3 | 1 | 8 | 3 | ... | 4 | ... | 3 | 1 | 1 | ... | ... | 24 |
| | Linchmere ...... | 350 | ... | 1 | ... | 7 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 9 |
| | Linch ............ | 100 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Harting Sub-Dist. | Stedham ........ | 545 | 1 | 2 | 1 | 1 | 1 | ... | ... | ... | 2 | ... | ... | ... | ... | 8 |
| | Iping ........... | 530 | 4 | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 7 |
| | Trotton ........ | 405 | ... | 1 | 1 | 4 | 3 | ... | ... | ... | 2 | 1 | 1 | ... | ... | 13 |
| | Chithurst......... | 340 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Terwick ......... | 190 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Rogate............ | 990 | ... | 2 | ... | 1 | 1 | ... | 2 | 1 | 1 | ... | ... | ... | ... | 8 |
| | Harting ......... | 1280 | ... | 1 | 9 | 2 | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | 15 |
| | Elsted ........... | 210 | ... | ... | ... | ... | 4 | ... | ... | ... | 2 | ... | 1 | ... | ... | 7 |
| | Treyford ......... | 150 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| | Didling ......... | 85 | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 4 |
| | Bepton............ | 275 | 1 | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 4 |
| | Whole District ... | 14700 | 8 | 22 | 22 | 45 | 27 | ... | 23 | 1 | 22 | 9 | 12 | ... | 3 | 194 |

# MIDHURST RURAL SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| Midhurst Parish .. ... | 1650 | 284 | 10 | 36 | 39 | 29 | 1721 | 60 | 218 | 236 | 176 |
| Rest of Midhurst S. D. | 5020 | 768 | 66 | 81 | 94 | 70 | 1530 | 131 | 161 | 187 | 140 |
| Fernhurst Sub-District | 2480 | 369 | 51 | 36 | 57 | 49 | 1488 | 205 | 145 | 230 | 198 |
| Harting Sub-District... | 5000 | 790 | 67 | 62 | 119 | 80 | 1580 | 134 | 124 | 238 | 160 |
| Whole District ......... | 14150 | 2211 | 194 | 215 | 309 | 228 | 1558 | 136 | 151 | 217 | 160 |
| In 1878...... . ......... | 13691 | 222 | 23 | 23 | 28 | 24 | 1621 | 168 | 168 | 204 | 175 |
| In 1879... . ........... | 13789 | 233 | 12 | 26 | 31 | 32 | 1689 | 87 | 188 | 224 | 232 |
| In 1880 . .............. | 13842 | 198 | 9 | 21 | 28 | 21 | 1430 | 64 | 151 | 201 | 151 |
| In 1881 ................ | 13987 | 205 | 19 | 14 | 33 | 20 | 1465 | 135 | 100 | 236 | 143 |
| In 1882.................. | 14100 | 240 | 32 | 21 | 36 | 19 | 1702 | 227 | 149 | 255 | 134 |
| In 1883... ............. | 14210 | 188 | 16 | 20 | 25 | 23 | 1323 | 112 | 140 | 175 | 161 |
| In 1884 . ............. | 14360 | 230 | 18 | 27 | 23 | 22 | 1601 | 125 | 188 | 160 | 153 |
| In 1885.............. ..... | 14500 | 233 | 25 | 20 | 33 | 21 | 1607 | 172 | 138 | 227 | 144 |
| In 1886........ ......... | 14650 | 243 | 30 | 21 | 31 | 30 | 1658 | 204 | 143 | 211 | 204 |
| In 1887... ...... | 14700 | 219 | 10 | 22 | 41 | 16 | 1490 | 68 | 149 | 279 | 109 |

Table A.—Showing the Deaths during the year 1887, in the Rural Sani
and showing also the Population of

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. 1 | Population at all ages. Census 1881 2 | Population at all ages. Estimated to middle of 1887 3 | Registered Births. 4 | Mortality from all Causes at Subjoined Ages. At all ages. 5 | Under 1 year. 6 | 1 and under 5. 7 | 5 and under 15. 8 | 15 and under 25. 9 | 25 and under 60. 10 | 60 and upwds. 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Midhurst Parish. | 1615 | 1750 | 37 | 30 | 4 | 4 | — | 2 | 10 | 10 | Under 5<br>5 upwd |
| Rest of Midhurst Sub-District. | 4926 | 5450 | 108 | 77 | 7 | 4 | 5 | 7 | 17 | 37 | Under 5<br>5 upwd |
| Fernhurst Sub-Dis, | 2435 | 2500 | 68 | 37 | 5 | 2 | 2 | 3 | 6 | 19 | Under 5<br>5 upwd |
| Harting Sub-District. | 4957 | 5000 | 132 | 63 | 7 | 7 | 3 | 2 | 15 | 29 | Under 5<br>5 upwd |
| Easebourne Workhouse | — | — | — | 12 | — | 1 | — | — | 2 | 9 | Under 5<br>5 upwd |
| | | | | | | | | | | | Under<br>5 upwd |
| | | | | | | | | | | | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5upwd |
| Totals ............... | 13933 | 14700 | 345 | 219 | 23 | 18 | 10 | 14 | 50 | 104 | Under<br>5 upw |
| Deaths occurring outside the district among persons belonging thereto..... | | | | | | | | | | | Under<br>5 upw |
| Deaths occurring within the District among persons not belonging thereto... | | | | | | | | | | | Under<br>5 upw |

strict of MIDHURST, classified according to Diseases, Ages, Localities,
calities, and the Births therein during the year.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Cont Fevers |  |  | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Typhus. | Enteric or Typhoid | Other or Doubtful |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|  |  |  |  |  |  |  | 1 |  |  | 1 |  |  |  |  | 1 |  |  | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 2 | 4 |  | 12 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 |  |  | 7 |
|  |  |  |  |  | 1 |  |  |  |  |  |  |  |  | 9 | 10 | 6 | 1 | 38 |
|  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |  |  | 4 |
|  |  |  | 1 |  |  |  |  |  | 1 |  |  |  |  | 3 | 5 | 4 |  | 16 |
|  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  | 4 |  | 1 | 8 |
|  |  |  |  |  |  |  |  |  | 1 |  |  |  |  | 5 | 11 | 2 | 1 | 29 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3 |  |  | 7 |
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|  | 1 |  | 1 |  |  |  | 1 |  |  | 1 |  |  |  |  | 10 |  | 1 | 25 |
|  |  |  | 1 |  | 1 |  |  |  | 2 |  |  |  |  | 22 | 31 | 16 | 2 | 102 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

TABLE B.—Showing the New Cases of Sickness coming to the knowledg
District of MIDHURST, class

| NAMES OF LOCALITIES. 1 | | NEW CASES OF SICKNESS IN PERSONS BELONG | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 12 | Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping Cough 18 | C |
| Midhurst Parish. | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| Rest of Midhurst S.-D. | Under 5 | | | 1 | | | | |
| | 5 upwds. | | 3 | 5 | 1 | | | |
| Fernhurst Sub-District. | Under 5 | | | | 4 | | | |
| | 5 upwds. | | | | | | | |
| Harting Sub-District. | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | 1 | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| | Under 5 | | | | | | | |
| | 5 upwds. | | | | | | | |
| Totals ............... ..... | Under 5 | | | 1 | 4 | | | |
| | 5 upwds. | | 3 | 5 | 1 | | 1 | |

Sources of Information : In Workhouse and Workho

Medical Officer of Health, during the year 1887, in the Rural Sanitary
ording to Localities and Diseases.

HE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS

| ers. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other or Doubtful 21 | Diarrhœa and Dysentery 22 | Cholera 23 | Rheumatic Fever 24 | Erysipelas 25 | Pyæmia 26 | Puerperal Fever 27 | Ague 28 | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. |
| ...... | ...... | ..... | ...... | ...... | ...... | ...... | ...... | ............ ..................... |
| .... | .....<br>6 | .... | ..... | ... .. | ..... | .... | .... | .......... ....... ..... ......... |
| ..... | ..... | ..... | .... | .....<br>3 | .... | ....<br>1 | .... | ............ .......... ...... |
| ..... | 2<br>.....<br>4 | .... | ..... ..<br>1 | ..... | .... | .... | .... | .................... ............ |
| ...... | ...... | .... | .. | .... | .... | ..... | .... | .......... ................ ...... |
| .... | ... .. | ..... | ..... | .... | ..... | ..... | .. . | ........................... |
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| ..... | .. ... | ..... | ..... | ...... | ..... | ..... | ..... | ............................... .. |
| ..... | ...... | .... | ..... | .... | . ... | .... | .... | .............................. |
| .... | .... | ..... | .. ... | .... | .. | .... | .. | ..... .......... ..... ........ |
| . .. | ..... | . .. | .. | . .. | .. | . .. | ...... | ............................ |
| ..... | 2<br>.....<br>10 | ..... | . ...<br>1 | .. ...<br>3 | . ... | .....<br>1 | . .. | ........... .. .. ............ |

mary, 31. Among the Out-door Paupers, 373.

# RURAL SANITARY DISTRICT OF WESTBOURNE.

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POPULATION, 7,221 IN 1871; 7,420 IN 1881. AREA IN ACRES, 32,040. NO. OF HOUSES, 1,495 IN 1871; 1,533 IN 1881.

During the year 1887 the births of 225 children and the deaths of 108 persons were registered; of the births 127 were male and 98 were female; of the deaths, 54 were male, and 54 were female.

There were 14 deaths in Westbourne Workhouse, and these have been distributed among the several parishes whence each inmate came, viz., Stoughton 4, Compton 1, Funtington 2, Bosham 4, Westbourne 3; in all—14.

In each parish the deaths were thus distributed: — West Dean 10, East Marden 0, North Marden 0, Up Marden 2, Stoughton 11, Compton 6, Racton 2, Funtington 11, Bosham 23, Chidham 3, West Thorney 1, Westbourne 39; in all—108.

The births and deaths in the whole of the district during the last eight years have been as follows:—

| Year. | | Birth. | Birth-rate. | Deaths. | Death-rate. |
|---|---|---|---|---|---|
| 1880 | .. | 231 | 31·3 | 120 | 16·2 |
| 1881 | .. | 212 | 28·5 | 91 | 12·2 |
| 1882 | .. | 213 | 28·6 | 118 | 15.8 |
| 1883 | .. | 215 | 28·7 | 120 | 16·0 |
| 1884 | .. | 222 | 29·6 | 97 | 12·9 |
| 1885 | .. | 212 | 28·2 | 125 | 16·6 |
| 1886 | .. | 208 | 27·5 | 132 | 17·4 |
| 1887 | .. | 225 | 29·6 | 108 | 14·2 |

During the past eight years there have been in this district 1738 births and 911 deaths; the natural increase of population during this period by excess of births over deaths was, therefore 827. The estimated increase of the population during the same period is 200, so that there must have been a considerable migration into other districts.

In each quarter the births and deaths were as follows :—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .. | 28 | 27 | 55 | 15 | 16 | 31 |
| 2nd ,, .. | 29 | 22 | 51 | 17 | 15 | 32 |
| 3rd ,, .. | 28 | 20 | 48 | 9 | 8 | 17 |
| 4th ,, .. | 42 | 29 | 71 | 13 | 15 | 28 |
| Total | 127 | 98 | 225 | 54 | 54 | 108 |

On the average of seven years, it would appear that the births are most numerous in the first and third quarters of the year :—

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .. | 274 | 62 | 55 | 391 | 56·0 |
| 2nd ,, .. | 262 | 47 | 51 | 360 | 51·4 |
| 3rd ,, .. | 274 | 60 | 48 | 382 | 54·6 |
| 4th ,, .. | 264 | 39 | 71 | 374 | 53·3 |
| Total .. | 1074 | 208 | 225 | 1507 | 215·3 |

The following table shows the birth-rate in different localities during the last seven years :—

| | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. |
|---|---|---|---|---|---|---|---|
| Funtington Parish | 24·3 | 31·2 | 17·6 | 22·1 | 16·8 | 26·3 | 25·3 |
| Bosham ,, | 30·5 | 35·2 | 34·9 | 30·0 | 37·0 | 37·5 | 33·3 |
| Westbourne ,, | 29·4 | 28·0 | 30·3 | 31·0 | 31·3 | 25·6 | 32·1 |
| Rest of District | 28·6 | 24·8 | 28·9 | 31·2 | 25·4 | 25·1 | 27·2 |
| Total | 28·6 | 28·6 | 28·7 | 29·6 | 28·2 | 27·5 | 29·6 |

The birth-rate in 1887 throughout England and Wales was equal to 31·4 per 1000 persons estimated to be living in the middle of the year.

The deaths at different groups of ages are here shown :—

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 6 | 4 | — | 2 | 7 | 12 | 31 |
| 2nd ,, .. | 8 | — | — | 2 | 10 | 12 | 32 |
| 3rd ,, .. | 4 | 3 | 1 | — | 2 | 7 | 17 |
| 4th ,, .. | 7 | — | — | 5 | 6 | 10 | 28 |
| Total | 25 | 7 | 1 | 9 | 25 | 41 | 108 |

A comparative statement of the deaths in each quarter during the last seven years shows that the deaths are most numerous in the second and fourth quarters of the year :—

| | 1881-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .... | 130 | 47 | 31 | 208 | 29·7 |
| 2nd ,, .... | 152 | 26 | 32 | 210 | 30·0 |
| 3rd ,, .... | 118 | 23 | 17 | 158 | 22·6 |
| 4th ,, .... | 151 | 36 | 28 | 215 | 30·7 |
| Total .... | 551 | 132 | 108 | 791 | 113·0 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

| | Births. | Deaths under 1 year, | Ratio to 1000 Births |
|---|---|---|---|
| Funtington Parish .......... | 29 | 3 | 104 |
| Bosham ,, .......... | 43 | 9 | 209 |
| Westbourne ,, .......... | 81 | 5 | 61 |
| Rest of District ............ | 72 | 8 | 111 |
| Total ............... | 225 | 25 | 111 |

The rate of infant mortality in 1887 throughout England and Wales was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years.

The following table shows the rate of infant mortality in different localities during the past seven years :—

| | 1881-85. | 1886. | 1887. | Mean |
|---|---|---|---|---|
| Funtington Parish............ | 73·4 | 33 | 104 | 72·0 |
| Bosham ,, ............ | 96·8 | 83 | 209 | 110·9 |
| Westbourne ,, ............ | 83·6 | 172 | 61 | 93·0 |
| Rest of District ..... ....... | 79·4 | 106 | 111 | 87.7 |
| Total.................. | 84·4 | 110 | 111 | 91·8 |

The 25 *infantile* deaths included one from tuberculosis, one from convulsions, five from bronchitis, one from enteritis, eleven from debility, one from syphilis, and two from malformation; three infants were born prematurely.

The deaths from *zymotic* disorders were 3 in number against 4, 18, 7, 11, 13, and 9 in the six preceding years. These three deaths included two from enteric fever and one from diarrhœa.

The rate of mortality from these diseases was 0·4 per 1000 persons living against a rate of 0·5 2·4, 0 9, 1·4, 1·7, and 1·1 in the six preceding years.

In the past seven years there have been altogether 65 deaths in this class of disorders, or a mean annual rate of 1·2 per 1000 persons living.

### WESTBOURNE.

I have inspected the village of Westbourne in consequence of complaints as to the pollution of the stream of water which runs down the main street, This stream is about half a mile long, and it extends from the mill-pond at the north of Westbourne to the Hampshire Bridge, when it joins the river Ems. It begins as an overflow from the mill-pond, whence it passes down a covered drain for about 120 yards; it then runs in a southerly direction along a shallow brick channel or gutter along the road for a distance of about 260 yards, as far as the Reading room. It then again flows along a covered drain for about 200 yards to a point opposite the White Horse Inn, whence it again flows along an open channel to the river. The water is clean and bright at first, and it continues to be so until it enters the covered drain near the Reading Room; in the course of the next 200 yards it receives dirty house-water from 18 to 20 houses round the Square, and particularly from two inns, the "George and Dragon" and the "White Horse." It does not appear that any sewage from any closet passes into the stream, but the custom here is to make a small cesspit in connection with the sink in the scullery, and to allow the overflow from the cesspit to pass into the stream, so that the pollution is chiefly caused by soapsuds and greasy water.

If these liquids were carried away at once, the nuisance would be small, but the covered drain is so made that it is not fit for the purpose. The drain was made some years ago by making good the banks of what was then an open gutter, and placing stones over the top. Thus there is no firm bottom to the drain and the sewage lies along the uneven bottom, and it is not carried away by the constant flow of water.

If this covered drain were opened and cleaned out, and then a properly constituted drain were laid down for this distance of 200 yards, there is plenty of water from above to keep it constantly flushed and there would then be no nuisance. There is no proper channelling under a bunny opposite to Mr. Newton's and here again the sewage accumulates.

It would not, I think, be possible to keep the stream open through the Square as it used to be, as there is so much traffic passing down the street, Probably iron pipes would have to be used in places, where heavy traffic passed over the drain.

I do not think it would be desirable to prevent the people living round the Square from using this stream for the overflow from their cesspits, as otherwise the wells might become polluted, but the present cesspits should be frequently cleaned out.

It is true that the stream is being somewhat polluted, but no one appears to use the river Ems for drinking purposes, and this minute river runs along open country until it reaches Emsworth.

There is no doubt a nuisance at present; but this would be abated if the above suggestions were carried out. Every day the liquid house water would be washed away directly it entered the drain, instead of lying in a more or less stagnant condition on the uneven bottom of the covered drain.

In the course of the autumn the above improvements were carried out, and the work was finished by the end of October at a cost of about £230, This expence was borne by an increased highway rate on the parish of 6d. in the pound.

*Enteric fever* caused two deaths. Edward M,, 16 years old, worked at Portsmouth as a plumber's, apprentice, and while there in August he was taken ill. Soon afterwards he was brought home to Westbourne and he so far recovered as to be able to come downstairs. Eight weeks after his return, peritonitis came on and he died on October 20th. The house at Westbourne was very neat and clean and free from sanitary defects. The cause of the illness was put down to a defective drain at which the lad was employed in repairing. In November William L., a cowman, 41 years of age, fell ill with enteric fever and after eight day's illness, he died on November 25th. This man had three young children, all of whom had been ill before the father was attacked, but they all recovered. The cottage in which this family dwelt was of recent construction, very well built and free from sanitary defects. It stood on rising ground, it was surrounded by a large garden and there were no drains inside the house.

In neither case was there any further spread of the disease.

*Inquests* were held in four cases:—Male, 50 years, suicide by hanging whilst insane; male, 65 years, cancer of the stomach; female, 4 years, accidentally run over by a waggon; female, 20 years, bursting of a blood-vessel on the brain.

There was one death returned as "not certified" out of a total of 108 deaths: - Male, 12 hours, premature birth.

There were four deaths of illegitimate children out of a total of 225 births:– Female, 10 months, debility from birth, certified; male, 5 hours, malformed, certified; female, 3 years, cerebral tumour, certified; female, 18 years, phthisis, certified.

The following figures show a marked improvement in recent years over the rates which prevailed twenty and thirty years ago:—

| Per 100,000 Persons living. | 1851-60. | 1861-70. | 1881-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1748 | 1857 | 1506 |
| Zymotic „ ......... | 267 | 373 | 123 |
| Phthisis „ ......... | 308 } 436 | 232 } 422 | 127 } 423 |
| Lung Disease ......... | 128 | 190 | 296 |
| 15 *to* 55 *years.* | | | |
| Phthisis Death-rate ......... | 498 mean<br>610 female | 406 mean<br>405 female | 230 mean<br>206 female |
| Lung Disease Death-rate ... | 54 mean<br>41 female | 44 mean<br>18 female | 68 mean<br>64 female |
| Under 1 year .................. | ? | 10282 | 8633 |
| Under 5 years ........ ...... | 3726 | 3937 | 2674 |

A few cases of overcrowding were abated during the year.

There are no registered common lodging houses in this district.

The slaughter-houses and bakehouses have been inspected at intervals and they have been kept in a cleanly state.

There was no case during the year in which it was found necessary to condemn meat or any other article of food which had been exposed for sale.

No proceedings were taken before the Bench during the year.

# WESTBOURNE RURAL SANITARY DISTRICT.

Table 1.—Showing the Deaths at various groups of ages in the 7 years, 1881-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1881 ...................... | 91 | 13 | 5 | 3 | 2 | 19 | 49 |
| 1882 ...................... | 118 | 24 | 12 | 8 | 4 | 24 | 46 |
| 1883 ...................... | 120 | 21 | 12 | 7 | 7 | 26 | 47 |
| 1884 ...................... | 97 | 13 | 6 | 9 | 5 | 24 | 40 |
| 1885 ...................... | 125 | 20 | 7 | 6 | 5 | 26 | 61 |
| 1886 ...................... | 132 | 23 | 11 | 4 | 6 | 27 | 61 |
| 1887 ...................... | 108 | 25 | 7 | 1 | 9 | 25 | 41 |
| Total...................... | 791 | 139 | 60 | 38 | 38 | 171 | 345 |
| In 1,000 Deaths ...... | 1000 | 176 | 76 | 48 | 48 | 216 | 436 |

Table 2.—Showing the Deaths and Death-rate in each of the 7 years 1881 87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhoea and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Total. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1881 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | .. | 2 | .. | 1 | 4 | 0·5 |
| 1882 | ... | 1 | 1 | 8 | 4 | ... | 1 | ... | 1 | ... | 1 | 1 | ... | 18 | 2·4 |
| 1883 | ... | ... | ... | 3 | 1 | ... | 1 | ... | 2 | ... | ... | ... | ... | 7 | 0·9 |
| 1884 | .. | ... | ... | 6 | 4 | ... | ... | ... | 1 | ... | ... | ... | ... | 11 | 1·4 |
| 1885 | ... | ... | ... | ... | ... | ... | 10 | ... | 2 | ... | 1 | ... | ... | 13 | 1·7 |
| 1886 | ... | 2 | ... | ... | 3 | ... | 2 | ... | 1 | .. | ... | 1 | ... | 9 | 1·1 |
| 1887 | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | 3 | 0·4 |
| Tl. | — | 3 | 1 | 18 | 12 | ... | 16 | ... | 8 | ... | 4 | 2 | 1 | 65 | 1·2 |

## WESTBOURNE RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 7 years 1881-87.

| PARISH. | Population in 1887. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Continued Fever. |  |  | Diarrhœa & Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Typhus. | Enteric or Typhoid | Other or doubtful |  |  |  |  |  |  |
| West Dean | 745 | ... | ... | ... | ... | 1 | ... | 1 | ... | 2 | ... | 2 | ... | ... | 6 |
| East Marden | 92 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| North Marden | 40 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Up Marden | 340 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 2 |
| Stoughton | 640 | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 3 |
| Compton | 290 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Racton | 98 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 2 |
| Funtington | 1145 | ... | ... | ... | 10 | 1 | ... | 2 | ... | ... | ... | 1 | 1 | ... | 15 |
| Bosham | 1290 | ... | ... | ... | 1 | 5 | ... | 3 | ... | 4 | ... | ... | ... | ... | 13 |
| Chidham | 270 | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 3 |
| West Thorney | 130 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| Westbourne | 2520 | ... | 3 | ... | 3 | 3 | ... | 6 | ... | ... | ... | 1 | 1 | 1 | 18 |
| Whole District | 7600 | ... | 3 | 1 | 18 | 12 | ... | 16 | ... | 8 | ... | 4 | 2 | 1 | 65 |

# WESTBOURNE RURAL SANITARY DISTRICT.

TABLE 4.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 7 years 1881-87.

| LOCALITY. | Population in middle of the period. | Deaths during the 7 years 1881-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| Funtington Parish ... | 1130 | 112 | 15 | 6 | 27 | 7 | 1416 | 189 | 76 | 341 | 88 |
| Bosham Parish ......... | 1265 | 162 | 13 | 10 | 30 | 14 | 1829 | 146 | 113 | 339 | 158 |
| Westbourne Parish ... | 2480 | 272 | 18 | 27 | 53 | 20 | 1567 | 104 | 155 | 301 | 115 |
| Rest of District......... | 2625 | 245 | 19 | 24 | 44 | 19 | 1333 | 103 | 131 | 239 | 103 |
| Whole District ......... | 7500 | 791 | 65 | 67 | 156 | 60 | 1506 | 123 | 127 | 296 | 114 |
| In 1881.................. | 7420 | 91 | 4 | 7 | 15 | 11 | 1226 | 54 | 94 | 202 | 148 |
| In 1882......... ........ | 7450 | 118 | 18 | 11 | 18 | 13 | 1583 | 241 | 147 | 241 | 174 |
| In 1883.................... | 7490 | 120 | 7 | 10 | 20 | 9 | 1602 | 93 | 134 | 268 | 120 |
| In 1884 ............... | 7500 | 97 | 11 | 14 | 19 | 6 | 1293 | 146 | 186 | 253 | 80 |
| In 1885............ ..... | 7520 | 125 | 13 | 4 | 26 | 5 | 1662 | 172 | 53 | 345 | 66 |
| In 1886........ ........ | 7550 | 132 | 9 | 10 | 35 | 10 | 1748 | 119 | 132 | 463 | 132 |
| In 1887........ .. ...... | 7600 | 108 | 3 | 11 | 23 | 6 | 1421 | 40 | 144 | 302 | 79 |

TABLE A.—Showing the Deaths during the year 1887, in the Rural Sanit
and showing also the Population of s

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. 1 | POPULATION AT ALL AGES. Census 1881 2 | POPULATION AT ALL AGES. Estimated to middle of 1887 3 | Registered Births. 4 | MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. At all ages. 5 | Under 1 year. 6 | 1 and under 5. 7 | 5 and under 15. 8 | 15 and under 25. 9 | 25 and under 60. 10 | 60 and upwds. 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Funtington Parish | 1108 | 1145 | 29 | 9 | 3 | — | — | 1 | — | 5 | Under 5.<br>5 upwds |
| Bosham Parish | 1255 | 1290 | 43 | 19 | 8 | 1 | — | — | 3 | 7 | Under 5.<br>5 upwds |
| Westbourne Parish | 2450 | 2520 | 81 | 36 | 5 | 4 | 1 | 4 | 11 | 11 | Under 5.<br>5 upwds |
| Rest of District | 2607 | 2645 | 72 | 30 | 8 | 2 | — | 3 | 7 | 10 | Under 5.<br>5 upwds |
| Westbourne Workhouse | — | — | — | 14 | 1 | — | — | 1 | 4 | 8 | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5 upwds |
| | | | | | | | | | | | Under 5.<br>5upwds |
| TOTALS ................ | 7420 | 7600 | 225 | 108 | 25 | 7 | 1 | 9 | 25 | 41 | Under 5.<br>5 upwds |
| Deaths occurring outside the district among persons belonging thereto..... .................... | | | | | | | | | | | Under 5.<br>5 upwds |
| Deaths occurring within the Distrct among persons not belonging thereto... ............ ..... | | | | | | | | | | | Under 5.<br>5 upwds |

ict of WESTBOURNE, classified according to Diseases, Ages, Localities,
lities, and the Births therein during the year.

RTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Cont Fevers | | | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typhus. | Enteric or Typhoid | Other or Doubtful | | | | | | | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| | | | | | | | | | | | | | | | 1 | | | 2 |
| | | | | | | | | | | | | | | | 2 | 2 | | 2 |
| | | | | | | | | | | | | | | | 3 | | 1 | 5 |
| | | | | | | | | | | | | | | 2 | 2 | 1 | | 5 |
| | | | | | | | | | | | | | | | 3 | | | 6 |
| | | | | | 2 | | | | | | | | | 3 | 4 | | 1 | 17 |
| | | | | | | | | | | | | | | | 2 | | | 8 |
| | | | | | | | 1 | | | | | | | 4 | 2 | | | 13 |
| | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | 2 | 4 | 3 | | 4 |
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| | | | | | | | | | | | | | | | 9 | | 1 | 22 |
| | | | | | 2 | | 1 | | | | | | | 11 | 14 | 6 | 1 | 41 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

TABLE B.—Showing the New Cases of Sickness coming to the knowle
District of WESTBOURNE, cla

| NAMES OF LOCALITIES. | NEW CASES OF SICKNESS IN PERSONS BEL | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Smallpox | Measles | Scarlatina | Diphtheria | Croup (not spasmodic) | Whooping |
| 1 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Funtington Parish. | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| Bosham Parish. | Under 5 | | | | | | |
| | ........... | ...... | ...... | ... .. | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| Westbourne Parish. | Under 5 | | | | | | |
| | ........... | .. ... | ...... | ..... | ...... | ...... | ...... |
| | 5 upwds. | | | | 1 | | |
| Rest of District. | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ......... .. | ..... | ..... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ........... | ...... | ...... | ...... | ...... | ...... | ...... |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | ........ | ...... | ..... | ...... | . .. | .. . | .. |
| | 5 upwds. | | | | | | |
| Totals ............... ...... | Under 5 | | | | | | |
| | . ....... | .. . | .. .. | .... | ..... | ..... | ... |
| | 5 upwds. | | | | 1 | | |

Sources of Information: In Workhouse and Wo

e Medical Officer of Health, during the year 1887, in the Rural Sanitary
cording to Localities and Diseases.

THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS
E.

| vers. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Typhoid | Other or Doubtful | Diarrhœa and Dysentery | Cholera | Rheumatic Fever | Erysipelas | Pyæmia | Puerperal Fever | Ague | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. |
| 0 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | |
| ... | ...... | ......<br>1 | ..... | ...... | ...... | ...... | ...... | ...... | ...... |
| ... | .... | ..... | .... | ... | ... ..<br>1 | .... | .... | .... | ...... |
| .. | 1<br>.....<br>5 | 2<br>..... | .... | ..... | .... | ..... | ..... | ..... | ...... |
| .. | ..... | ....<br>2 | .... | ..... | ..... | .... | .... | .... | ...... |
| ... | ...... | ...... | .... | .. | .... | ..... | .... | ..... | ...... |
| ... | ...... | ... .. | ...... | ...... | ..... | ..... | ..... | .... | ...... |
| ... | ...... | ...... | .... | ..... | ...... | ..... | ..... | ..... | ...... |
| ... | ..... | .. ... | ..... | ..... | ...... | ..... | .... | ..... | ...... |
| ... | ..... | ...... | ...... | ..... | ..... | ...... | ..... | ..... | ...... |
| ... | ..... | ..... | ...... | ...... | ..... | .... | ...... | ..... | ...... |
| ... | .. .. | ..... | ... | ...... | ...... | ...... | .... | ...... | ...... |
| ... | 1<br>......<br>5 | 2<br>.....<br>3 | ...... | ..... | .. ...<br>1 | ...... | ...... | .. .. | ...... |

ıfirmary. 27. Among the Out-door Paupers, 370.

# URBAN SANITARY DISTRICT OF WORTHING.

---

POPULATION, 7,401 IN 1871; 10,976 IN 1881. AREA IN ACRES, 979. NO. OF HOUSES, 1,331 IN 1871; 1,959 IN 1881.

During the year 1887 the births of 327 children and the deaths of 231 persons were registered; of the births 169 were male and 158 were female; of the deaths, 101 were male, and 130 were female.

There were 9 deaths in the East Preston Workhouse, of persons belonging to this dstrict, and there were also 25 deaths among visitors, all of which are included in the above number of 231. There were also 8 deaths in the Worthing Infirmary of which 7 belong to this district and 1 to East Preston district.

The births and deaths in the whole of the district during the last ten years have been as follows:—

| | | | Deaths. | | Death-rate. | |
|---|---|---|---|---|---|---|
| Year. | Birth. | Birth-rate. | Including Visitors. | Excluding Visitors. | Including Visitors. | Excluding Visitors. |
| 1878 | 265 | 27·1 | 168 | 150 | 17·2 | 15·3 |
| 1879 | 287 | 28·1 | 153 | 146 | 15·0 | 14·3 |
| 1880 | 286 | 26·8 | 168 | 155 | 15·7 | 14·5 |
| 1881 | 324 | 29·2 | 170 | 150 | 15·3 | 13·5 |
| 1882 | 355 | 30·7 | 160 | 142 | 13·8 | 12·3 |
| 1883 | 313 | 25·7 | 164 | 151 | 13·4 | 12·4 |
| 1884 | 352 | 27·8 | 205 | 177 | 16·2 | 14·0 |
| 1885 | 327 | 25·0 | 178 | 161 | 13·6 | 12·3 |
| 1886 | 366 | 27·7 | 228 | 210 | 17·2 | 15·9 |
| 1887 | 327 | 24·5 | 231 | 206 | 17·3 | 15·4 |

In each quarter the births and deaths were as follows:—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .. | 46 | 36 | 82 | 32 | 39 | 71 |
| 2nd " .. | 44 | 32 | 76 | 26 | 30 | 56 |
| 3rd " .. | 33 | 34 | 67 | 19 | 31 | 50 |
| 4th " .. | 46 | 56 | 102 | 24 | 30 | 54 |
| Total | 169 | 158 | 327 | 101 | 130 | 231 |

A comparison of the births in each quarter during the past nine years shows that they are lowest in the third quarter, and highest in the last quarter of the year.

| | 1879-84. | 1885. | 1886. | 1887. | Total. |
|---|---|---|---|---|---|
| 1st Quarter .. | 473 | 90 | 95 | 82 | 740 |
| 2nd ,, .. | 497 | 71 | 74 | 76 | 718 |
| 3rd ,, .. | 461 | 76 | 94 | 67 | 698 |
| 4th ,, .. | 486 | 90 | 103 | 102 | 781 |
| Total .. | 1917 | 327 | 366 | 327 | 2937 |

The deaths at different groups of ages in each quarter are here shown :—

| | Under 1 year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter .. | 11 | 7 | 7 | 3 | 12 | 31 | 71 |
| 2nd ,, .. | 3 | 7 | 1 | 5 | 17 | 23 | 56 |
| 3rd ,, .. | 11 | 2 | 2 | 4 | 13 | 18 | 50 |
| 4th ,, .. | 8 | 2 | 3 | 4 | 15 | 22 | 54 |
| Total | 33 | 18 | 13 | 16 | 57 | 94 | 231 |

On the average of the past ten years, the deaths are most numerous in the first and last quarters of the year :—

| | 1878-85. | 1886. | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter .... | 375 | 75 | 71 | 521 | 52·1 |
| 2nd ,, .... | 332 | 54 | 56 | 442 | 44·2 |
| 3rd ,, .... | 321 | 47 | 50 | 418 | 41·8 |
| 4th ,, .... | 338 | 52 | 54 | 444 | 44·4 |
| Total .... | 1366 | 228 | 231 | 1825 | 182·5 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

| | | Births. | Deaths under 1 year, | Ratio to 1000 Births. |
|---|---|---|---|---|
| 1878 | .. | 265 | 31 | 117 |
| 1879 | .. | 287 | 21 | 73 |
| 1880 | .. | 286 | 39 | 136 |
| 1881 | .. | 324 | 28 | 86 |
| 1882 | .. | 355 | 34 | 95 |
| 1883 | .. | 313 | 33 | 105 |
| 1884 | .. | 352 | 43 | 122 |
| 1885 | .. | 327 | 29 | 88 |
| 1886 | .. | 366 | 54 | 147 |
| 1887 | .. | 327 | 33 | 100 |
| | Mean | 320·2 | 34·5 | 107 |

The 33 *infantile deaths* included four from diarrhœa, one from abscess, one from tabes mesenterica, one from tuberculosis, six from convulsions, two from disease of the spine, one from hæmorrhage, eight from lung disease, one from enteritis, and five from atrophy; three infants were born prematurely.

The rate in 1887 througout England and Wales was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years.

The deaths from *zymotic* disorders were 12 in number, against 21, 9, 29, 10, 18, 15, 16, 15, and 55 in the nine preceding years. The 12 deaths in 1887 included one from scarlatina, four from diarrhœa, one from enteric fever, five from diphtheria and one from pyæmia. The rate of mortality from these diseases was 1·9 per 1000 persons living against a rate of 2.1, 0,8, 2.7, 0.9, 1,5, 1.2. 1.2, 1.1 and 4.1 in the nine preceding years.

In the past ten years there have been altogether 200 deaths in this group of disorders, or a mean annual rate of 1.6 per 1000.

### WEST TARRING DRAINAGE.

The question of admitting the sewage from West Tarring into the main sewers of this district occupied much attention during the year, and the following report by Mr. Mansergh, C.E., dated December. 1886, places the matter very clearly, but up to the end of 1887 no structural works had been commenced.—see p. 70.

" Early in the month of September I had some correspondence with your clerk, Mr. Verrall, and an interview here with him and Mr. Tribe on the question of the Tarring sewage, and on the 13th of that month I received a letter from Mr. Verrall stating the exact points upon which my advice is desired as follows: —

" Whether their (the Board's) sewer is of sufficient capacity to take the sewage of West Tarring as it now receives in addition to the sewage, a large part of the surface water in their own district ? "

" Whether, if it should be found that the sewer is not of sufficient capacity to receive the Tarring sewage, it would answer the purpose of the Board to divert their surface water or make further provision for the discharge of storm waters and the probable cost of so doing ? "

" The compensation the Board should be paid if they assent to the request of Tarring Parish ? "

On the 18th of October I visited Worthing and inspected the Tarring district and part of Worthing, and went through the papers with Mr. Horne, and on the 8th November, and again on the 4th inst., whilst at Worthing, Mr. Stanford obtained some further particulars.

On comparing the section of the outfall sewer, furnished to me by Mr. Horne, with my report of March 22nd, 1875, I found that certain commendations I had then made did not appear to have been carried out and I therefore wrote him again to make a further inspection which resulted in his finding discrepancies and ultimately taking independent levels and preparing an entirely new and correct section.

This has accounted for the delay in sending this report and through no fault either of Mr. Horne or myself.

In the course of this inspection Mr. Horne has found that the greater part of the main outfall sewer constructed under the direct superintendance of your late Surveyor, Mr. James Lund, is in sound and satisfactory condition; but there are certain portions executed during his illness which have been done in a careless and slovenly way.

I allude to the sewer in Montague Street between West Buildings and Western Place, which is unsatisfactory as regards line, level, dimensions and construction, and also to the 30in. cast iron outfall through the beach and on the foreshore which is laid with a fall of about one foot in the wrong direction. From information supplied by Mr. Horne I find that your outfall sewer has at present to carry away the sewage of a population of 13,000 and the surface water falling on an area of 271 acres of streets, buildings, yards, and other impermeable surfaces. The present population of the District of Tarring, whose sewage it is now proposed to take in, is 500. The existing main outfall sewer from the junction in the Park to the overflow into the brooks is a circular brick sewer 3ft. 6in. in diameter, laid with a gradient of 1 in 1834 for a length of 4110ft. and for the remaining length of 1220ft. with a gradient of 1 in 1506.

It is not necessary to describe the other sewers as this part of the main intercepting sewer is what may be called the weakest link in the chain as its sectional area and gradient practically limit the amount of sewage and rainfall that can be carried off.

In determining this amount the invert gradients of 1 in 1834 and 1 in 1506 may be ignored as they only influence the flow when the outfall sewer is not backed up by the tide but is discharging with a free outfall at low water; at such times no flooding has ever been known to occur.

The flooding of cellars has always taken place at high water and before certain alterations suggested by Mr. Horne in 1885 were made to the overflow, such flooding was not uncommon.

The storm outlet into the brooks consists of three 18 inch pipes. These pipes are 217 feet long and are laid nearly level for 200 feet and with a fall towards the brooks in the last 17 feet.

The overflow pipes are of stoneware jointed with cement with the exception of the end pipes discharging into the brook which are of cast iron.

The level of the inverts of the pipes at the upper end is 15·00 and at the brooks 12·90. The normal level of the water in the brooks is 13·50 and varies very slightly.

The flooding hitherto has been partially if not entirely due to the restricted area of the connection between the sewer and the overflow pipes and has not been repeated since the alterations before mentioned which were completed on the 10th August, 1885.

The greatest rainfall recorded since that date was on the 10th September, 1886, viz., 1·62 inches in 24 hours and occurred simultaneously with the highest tides of the year.

The present means of discharge have therefore sufficed during the last 15 months, although the maximum rainfall happened on that day in the year when the sea outlet would be closed the longest, but it must not be assumed that no greater quantity may have at certain times to be provided for.

The greatest rainfall recorded since 1881 is 2.11 inches in 24 hours.

I have endeavoured to make a calculation of the maximum quantity the existing arrangements are capable of discharging when the sea outlet is closed by the tide.

The height to which the sewage at the overflow can now be backed up is that due to the level of the three 18 inch outlet pipes.

The sewage must now rise to such a height as will admit of the pipes running full bore before they will be doing their full duty, that is, it must rise to at least the top of the pipes which is 16·50 above datum.

The lowest cellar in the town is that of the Sea House Hotel, viz., 18·60 above datum or 2.10 above top of overflow pipes and the length of sewer from this cellar to the overflow is 8,955 feet.

At such times as the overflow pipes are running full the steepest possible gradient under which the outfall sewer could be working without flooding of the Sea House Cellar would be 1 in 4264.

That is, the whole system of sewers would be gorged throughout and that portion between the Sea House Hotel and the overflow would be acting as an inverted syphon with a hydraulic gradient of 1 in 4264. This gradient would give a velocity of 14½ inches per second through tne 42 inch outfall sewer and a discharge of 4350 gallons per minute or 261,000 gallons per hour.

This provision is equivalent to about one inch running off the paved area of 271 acres in 24 hours. The discharge will of course be very much greater when the sewage is not backed up by the tide, but has a free outlet into the sea.

Now it will be necessary, if the additional sewage of Tarring (and the surface water that will inevitably come with it) is to be admitted that the discharging capacity of the outfall sewer should in some way be increased.

I propose to do this by taking up and relaying the three 18in. pipes at a lower level and with a regular gradient from the overflow to the brooks and improving the shape of their intake ends.

By these alterations the level of the sewage at the overflow when the sewer is working in the way described will be lowered so that the available head will be increased from 2ft. to 3·80ft. and the discharging capacity in the ratio of 1·45 to 1·95.

In other words, the amount of sewage and rainfall that can be provided for without flooding the lowest cellar in the town will be increased by about one third. There is a better site for an overflow about 130 yards to the east of the existing one where the outfall sewer is laid alongside a branch of the brooks through which quite half of the whole stream appears to be passing. An overflow could be constructed here very cheaply and would discharge directly into the stream thereby saving the loss of head necessary to overcome the friction in the intervening pipes.

If arrangements can readily be made for the discharge of the storm waters into the stream I recommend that a new overflow be constructed at this point in which case the existing overflow would not require alteration. I think with either of the suggested alterations you may safely take into your system the sewage proper of the West Tarring district on the condition that the rainfall from the added area is as rigorously excluded as is practicable.

With this report I forwarded a diagram (compiled from ordnance survey data) showing a spring and a neap tide at Shoreham which will, I assume, represent, with fair accuracy, the state of things at your sewer outfall under normal conditions.

The vertical scale shows the rise and fall, and the horizontal scale the time.

The level of the iron pipes at the outfall into the sea, the main sewer at the point of overflow, and the three overflow pipes are shown in as near their correct position as is practicable.

From this diagram can be ascertained approximately the length of time the flap valve on the outlet will be closed. The exact moments when the sewer will cease and recommence to discharge will depend upon the relative rates the sewage rises vertically inside the sewer and the tide outside.

On certain occasions in times of heavy rains happening towards the top of the tide the delivery into the sea may be absolutely stopped for four hours, during which period the sewage and rainfall will have to be stored in the sewers and, until it is backed up to the level of the overflow pipes when it will be discharged into the brooks.

I cannot foretell what will be the largest quantity that will thus have to be provided for; it may be much in excess of the carrying power of the sewer which as I have before stated is the measure of capacity, and for this reason another overflow should if possible be constructed as I suggested in my report of 22nd March, 1875, as high up the sewer towards the junction of the branch from High Street as posible.

The position I recommend for this overflow is in the Homefield Road and the lip should be about level with the soffit of the arch of the Teville culvert which at this point is parallel to the main sewer at a distance of about 20 feet. The Teville culvert here is 3 feet in diameter and its invert level about 13.79 above datum.

This overflow would only come into action at very rare intervals and at those times when the sewage would be so diluted that it could not possibly cause offence.

At the same time it would minimise the evil and serious damage to property caused by the occasional flooding of basements and cellars.

If these recommendations can be carried into effect, then I think the provision for preventing flooding will be as ample as you can at present be reasonably expected to make, but they may not be an absolute preventive.

The above mav be taken as an answer to the first question. As to the second I should advise that as occasion arises it would certainly be desirable to divert as much unpolluted surface water as possible into the sea or into the natural stream. In replying to the third question I should say that it would be a fair thing if the cost of altering the existing overflow and relaying the pipes &c. and the providing of the suggested overflow in Homefield Road should be divided equally between the Worthing Local Board and the Tarring Authority.

That the annual charge for interest and repayment of the capital cost of the main sewer, and the cost of its maintenance in good order, from below the point where the Tarring branch will join it to the outfall into the sea, should be paid by the two authorities in proportion to their respective rateable values at the time being."

## WEST WORTHING OUTFALL.

In my last report, p. 156. an account was given of the sewage outfall at West Worthing, so far as it affected the foreshore. The following report on the subject by Mr. Mansergh, C.E., dated July 11th, 1887, should be read in conjunction, with Mr. Baldwin Latham's report to the West Worthing Urban Sanitary Authority.

"After some correspondence with Mr. Verrall, I met a committee of your Board at the Town Hall, on the 4th April last, and having made myself acquainted with what had passed between yourselves, the Local Government Board, and the West Worthing Commissioners, accompanied the Committee, Mr. Verrall, and Mr. Horne, to the West Worthing Office, and inspected the plans and sections of their proposed outfall works.

Mr. Horne has since made, under my directions, certain experiments as to the flow of the tides. I have had interviews with him and Mr. Verrall in London, at which I have elicited further information and after giving the subject careful consideration I have now the pleasure of forwarding you the following report:—

The West Worthing scheme may shortly be described as follows:—

It is proposed to lay a circular sewer of concrete tubes 24 inches diameter from the existing tank at the filter chamber along the roadway in a westerly direction for a length of about 800 yards. This sewer will have a fall of 1 in 1000, and its invert at the lower end will be about 3½ feet above Ordnance Datum or mean tide level. The sewer will discharge into a tank 100 feet long, divided longitudinally into two compartments, each 12 feet wide, and having an available area of 2400 square feet. The invert of this tank at the upper end will be 7 feet below the invert of the outfall sewer. The tank is to be constructed for the purpose of storing the sewage that may accumulate during the time that the tidal flap is closed by the action of the tide and will contain without backing up the sewer 16,800 cubic feet or 105,000 gallons. There will be a slight fall in the floor of the tank, the invert being 3·61 below O.D. at the low end. From the bottom of this tank a cast iron pipe 24 inches diameter will be laid through the beach and across the sands in a southerly direction for about 550 yards but not so far as to low water of spring tides. The cast iron pipe will be laid with a gradient of 1 in 508 and its invert will be 6.90 feet below O.D. at the outlet where it will be protected by a reflux valve or tidal flap. The proposed point of discharge will be about 900 yards in a south westerly direction from the existing sewage outfall of the West Worthing Commissioners, about 1700 yards from the Worthing boundary and about 2400 yards from the Worthing Pier.

I send with this Report a diagram taken from the published Ordnance Survey Observations at Shoreham, shewing a spring and a neap tide, the vertical scale giving the rise and fall, and the horizontal scale of time.

On this diagram I have marked the heights of the inverts of the proposed tank and outfall sewer.

It will be seen that at spring tides the level of the sea remains higher than the bottom of the tank for about 7hrs. 20mins., and at neap tides about 8hrs. and 40mins. The tank can therefore only be emptied during a period in each tide ranging according to the state of the tide from 3¾ to 5 hours, or say on an average from 2 hours before to 2 hours after low water. This tank must necessarily be emptied at every tide otherwise it will be useless for storage purposes. Now no discharge can take place until the surface of the sewage inside the tank is higher than the level of the sea outside, and I have endeavoured to make an estimate of the probable time under normal or fine weather conditions when this point will be reached.

I have assumed that the flow of sewage due to the present population of 1100 persons, when undiluted by rainfall will be at the rate of 14,000 gallons per tide, and that on an average 8-12th of this quantity or say 9,500 gallons will have to be stored while the tidal flap is closed by the pressure of the sea. Now this 9,500 gallons will occupy about 8 inches deep over the whole area of the storage tank, but as the tank will have a central wall dividing it practically into two, I will assume that one compartment only will be in use and that the depth of water accumulated under normal conditions during an average tide will be 1 foot 4 inches. At such times the discharge of sewage could not commence until about 3 hours before low water nor be continued longer than about 2 hours after. During the remainder of the tide the discharge of sewage into the sea by gravitation will be impossible.

The point therefore for consideration is—Will it be possible to effect the discharge of the sewage during the limited period available without polluting the foreshore of the Worthing or West Worthing districts (which for the purpose of the present enquiry must be taken as one) without causing nuisance to inhabitants or visitors?

With the view of ascertaining the direction of the tidal currents, Mr. Horne has carried out two sets of experiments, the first consisting in following and recording the course of well immersed floats started at various times from the proposed point of outfall and the second in noting the times at which the currents commenced their alternating eastward and westward movement as shown by a buoy moored southward of the intended point of discharge beyond low water of spring tides, so as always to be just afloat. The courses of the floats have been plotted by Mr. Horne on the 1-2500th and 6 inches to a mile Ordnance maps which I am sending with this Report and they speak for themselves. I also send Mr. Horne's original Report of his experiments and a tabulated statement compiled therefrom which I think requires no explanation. It will be remarked that in all cases the eastward movement, as shown by the course of the floats, commences very much earlier than that shown by the swinging of the buoy moored opposite the point of outfall, in the first case averaging about 2¾ hours and in the second case only a few minutes before low water. This difference is no doubt due to the retarding action of the bottom of the sea in shallow water and shows that close to the shore the period of stagnation or slack water is maintained for some time before it is influenced by the returning current further out.

The experiments generally point to the conclusion that under normal conditions during the hours of possible automatic discharge from the proposed outlet before named, that is from 3 hours before to 2 hours after low water, the sewage will either at once be carried in the direction of Worthing or will stagnate in the immediate neighbourhood of the outfall until the eastward current arrives to carry it with the rising tide and deposit it on the sands and beach. This action will be much intensified during the frequently prevailing south westerly winds as will be seen by a glance at the charts prepared by Mr. Horne.

That some portion of the matters discharged from the sewer will not unfrequently be cast on shore in the West Worthing district I have no doubt. At the same time the intended point of discharge is so far removed from the Worthing boundary, and the population whose sewage is to be dealt with is so small, that I am not prepared to say that any appreciable real nuisance will be caused by sewage matter deposited on the sands and beach within the Worthing district proper.

If the sewage is to be harmlessly discharged into the sea near the point selected the outfall pipes should be extended to beyond low water mark of equinoctial spring tides.

The bottom of the storage tank should be raised, say 4 feet, and its area increased in proportion so as to allow of the tank being emptied after the current has begun to set to the westward. The tank to be subdivided into compartments so that its storing capacity may be adjusted to the varying conditions of rain, wind and tide.

Under the normal state of things the outlet to be closed at all times when the set of the tide is in an easterly direction, and for some hours before the eastward movement has commenced.

In dry weather the whole of the sewage collected during a tide could be passed through the outlet in a few minutes. If this discharge were only allowed to take place immediately after the turn of the tide to the westward, say 3 hours after low water, I am of an opinion that for all practical purposes the pollution of the foreshore to the east of the outlet would be prevented.

In times of heavy rain the sewage in the tank would be backed up to a higher level, it would be highly diluted and might be discharged on the falling tide as soon as the level of the sea permitted.

The discharge of the sewage at proper intervals would of course involve the attendance of a workman to open and close the sluices at every tide. It would not be possible to accomplish this automatically except by clockwork.

If this scheme is persisted in I think that you should press for such modification of its details as I have suggested and on the appointment of a proper attendant to insure its being worked so as to prevent all possible offence. As a disinterested outsider I cannot, however, refrain from saying how desirable I think it would be in the interest of the whole community if such arrangments could be come to between you and the West Worthing Commissioners as would result in the abandonment of this outfall on the West of the town of Worthing. Even if no trace of actual sewage were ever to come ashore there will be many occasions when the effect of the discharge will be clearly visible owing to the formation of a smooth oily looking patch upon the surface of the sea.

Nowadays people are becoming better informed on these matters and much more critical than they used to be, and I believe that those Seaside resorts will be preferred, where neither the boating nor bathing grounds can be suspected of being tainted by sewage.

I should hope, too, that the time may soon come when West Worthing will be absorbed in the Local Board' district and when no conflicting interest will be allowed to prejudice the fair fame of the town as a whole. If this desirable union had now been effected it is quite clear that money would not be spent in perpetuating a second outfall on that side of the Town which is the least suitable having regard to the set of the tides and the prevailing winds, and upon which it is most probable that population will increase.

I think Mr. Horne is to be complimented upon the way in which he has made and recorded the observations with regard to the currents. He will be able to explain in detail any points which may arise in discussion."

## DRAINAGE AND SEWAGE.

The general condition of the sewers in this district was the subject of frequent examinations during the year, and the following report by Mr Horne, the Town Surveyor, points out some serious defects. The sewer in Montague Street was only laid down in 1879 to replace a defective one, and it now appears that a portion of it, at least, should be taken up and relaid.

One source of nuisance seems to arise from the ventilators when a north-east wind is blowing, and this is probably due to the three overflow pipes to the main sewer in the Brooks which face in that direction. When the wind blows strongly up these pipes, it often happens that foul air issues from the manholes in the streets. This is a matter which could be easily remedied.

"Ever since the ventilating manhole covers were put down in Brighton Road, I have had numerous and well founded complaints of offensive smells being emitted from the same, thus proving that they were doing the work for which they were intended, perhaps too well. These complaints have not been confined to Brighton Road alone, but to other parts of the town where similar covers have been put on the manholes.

When such complaints became numerous, or in my opinion dangerous, I have had the ventilators closed; but as the manner in which such closing is carried out is not easily perceptible from the street, the complaints of imaginary smells have been continued for some time, and, even as long as a month after such closing, when it was practicably impossible for any smell whatever to arise.

On the main outlet sewer below the Park there are 14 surface ventilators varying from 12 to 18 inches in diameter, and three 18 inch overflow pipes which act as ventilators pointing in a north easterly direction; on the main sewers in the town there are 82 ventilators delivering on the surface of the streets and passages, one 18in. ventilator carried about 30 feet above the ground at the Board's Yard in High Street, one 12in. and one 16in. ventilator carried direct into the flue of the chimney at the waterworks, whilst scattered about the town there are 27 6in. ventilating pipes carried up the sides and gables of buildings; the majority of the water closets soil pipes are carried direct into the main sewer without any trap intervening and most of these are ventilated.

Thus the main sewers are well ventilated at 129 distinct places, which coupled with the large number of ventilators to the W. C. soil pipes, I consider ought to be sufficient for the present requirements. The question then arises, 1st what is the cause of the bad smell emitted from the ventilators? and 2nd how to get rid of the same?

In dealing with the first of these question perhaps it will be unnecessary for me to explain that the bad smells arise from sewer gas, generated from decomposing "fœcal" matter in the main sewers and branch drains, and although in the greater part of our town the sewers and drains are in such an excellent condition as to be able to carry away all sewage, &c., into the sea before decomposition commences, this does not take place in consequence of the same coming in contact and being mixed with the sewage of other parts of the town which is in a high state of decomposition before it gets many yards on its journey. I have gone very carefully into the conditions of the main sewers and branch drains and find that the main sewer between the outfall and the Park is clean and free from any sediment.

That portion between the Park and Ann Street has a quantity of sediment in it ranging from 3 inches to a foot in depth, from Ann Street along South Street and the east end of Montague Street from 1 inch to 7 inches, and Montague Street west of West Buildings from 9 inches to a foot of sediment, the west end of Montague Street and the branch sewer between West Street and Surrey Street are one huge elongated cesspool caused by the main sewer falling the wrong way; here all excremental matter lies and decomposes until heavy rain comes and distributes it along our sewers or until the sewers are completely choked, when it is drawn out by hand, many of the branch drains, particularly along Montague Street, Warwick Street, Warwick Buildings, London Street, King's Row, &c., are constantly stopping, and on examination are frequently found to have sufficient fall but not sufficient supply of water (and frequently no water at all through the apparatus being out of order) to carry away the solids, which decompose in the drains. Another evil which has contributed largely to the smells in the sewers is the blood from the slaughter houses being sent direct into the drains where I find that it at once sets and throws off the very worst and most dangerous of gases. I have called the attention of the owner of these slaughter houses and asked them to so alter their arrangements as to prevent any blood entering the sewers in future, one only has yet completed this work, others say they are going to but I think prompt action ought to be taken in this matter. I think these particulars sufficient to account for the presence of the sewer gas complained of, and as to the second question as to "how to get rid of it" is I am afraid a more difficult matter. In the first place the west end of Montague Street ought to be dealt with in some way or other; but as this is a matter that would involve considerable engineering skill, thought, and cost I do not propose to deal with it at present, but I think the main sewer between the Park and South Street ought to be thoroughly cleaned out and at least two penstocks fixed between those points in order that it may regularly be flushed and prevent further settlement. I strongly advise that flushing cisterns be substituted for the old cottage valve of the W. C.'s particularly in the London Road and Montague Street districts first, and that all branch drains, being in such a condition as to form recepticles for "fœcal" matter, be pulled up and relaid to a proper fall."

The following table shows the changes that have taken place in the death-rate from all causes and from various causes during a long period of time. With a population which has doubled itself in the last twenty years, the general death-rate has not altered much, but the zymotic and phthisis death-rates are very much lower. In this table care is taken to distinguish in each year the rates that include and exclude the deaths of visitors.

| Per 100,000 persons living. | 1843—52. | 1853—56 | 1857—63 | 1878-87. | |
|---|---|---|---|---|---|
| | Before | During | After | including visitors. | excluding visitors. |
| | execution of sanitary works. | | | | |
| Gen. Death-rate. | 1550 | 1630 | 1530 | 1550 | 1402 |
| Zymotic „ | 292 | 280 | 328 | 169 | 160 |
| Phthisis „ | 305 | 282 | 195 | 157 | 139 |
| Lung dis. „ | 147 | 185 | 185 | 219 | 203 |

*Inquests* were held in six cases:—Female, 47 years, suicide by hanging whilst insane; male, 33 years, suicide by shooting whilst insane; male, 17 years, accidentally run over; male, 60 years, heart disease, accelerated by immersion in the sea; female, 58 years, suicide by falling from a window; male, 3 years, accidentally burnt.

There was one death returned as "not certified" out of a total of 231 deaths:—Male, 82 years, old age, syncope.

There were four deaths of children born out of wedlock:—Female, 4 months, enteritis, certified; male, 12 years, paralysis, certified; male, 4 years, diphtheria, certified; male, 4 months, bronchitis, certified.

The death-rate from three diseases is here shown:—

| Soil. | Population in middle of the period. | Death-rate in 1876-85 per 1,000,000 persons living from Phthisis. | Lung-disease. | Diphtheria. |
|---|---|---|---|---|
| Moderately Pervious...... | 10800 | 1435 | 1759 | 139 |

In the Worthing Infirmary there were 115 in-patients during the year, against 30, 42, 42, 49, 55, 52, 63, 64, 84, and 83 in the ten preceding years. Of the 115 in-patients, 73 belonged to this district, 3 to Steyning, 13 to Thakeham, and 24 to East Preston district; 1 came from Littlehampton and 1 from West Worthing.

There were also 1802 out-patients, against 1002, 1074, 1065, 1080, 1075, 1221, 1277, 1355, 1628, and 1612 in the ten preceding years. Of the 1802 out-patients, 1376 belonged to this district, 91 to Steyning, 34 to Thakeham, 296 to East Preston, 2 to Littlehampton, and 3 to West Worthing districts.

There were 423 new cases of sickness among paupers, against 347, 194, 199, 141, 251, 214, 188, 367, 439, and 369 in the ten preceding years.

A few cases of overcrowding were abated during the year.

The two common lodging-houses have been frequently inspected, and they are very well kept.

## WORTHING URBAN SANITARY DISTRICT.

### TABLE 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 | 168 | 31 | 13 | 2 | 8 | 49 | 65 |
| 1879 | 153 | 21 | 13 | 2 | 8 | 39 | 70 |
| 1880 | 168 | 39 | 18 | 12 | 9 | 41 | 49 |
| 1881 | 170 | 28 | 15 | 8 | 7 | 49 | 63 |
| 1882 | 160 | 34 | 14 | 3 | 7 | 41 | 61 |
| 1883 | 164 | 33 | 22 | 4 | 8 | 51 | 46 |
| 1884 | 205 | 43 | 13 | 12 | 6 | 61 | 70 |
| 1885 | 178 | 29 | 20 | 7 | 8 | 44 | 70 |
| 1886 | 228 | 54 | 43 | 10 | 5 | 57 | 59 |
| 1887 | 231 | 33 | 18 | 13 | 16 | 57 | 94 |
| Total | 1825 | 345 | 189 | 73 | 82 | 489 | 647 |
| In 1,000 Deaths | 1000 | 189 | 104 | 40 | 45 | 268 | 354 |

### TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | ... | ... | ... | ... | 15 | ... | .. | ... | 5 | .. | ... | 1 | ... | 21 | 2.1 |
| 1879 | ... | 5 | ... | 1 | 2 | ... | ... | ... | ... | ... | 1 | .. | ... | 9 | 0·8 |
| 1880 | ... | 4 | 1 | 2 | 6 | ... | 7 | ... | 9 | ... | ... | ... | ... | 29 | 2·7 |
| 1881 | ... | ... | 4 | 1 | ... | ... | 1 | ... | 2 | 2 | ... | ... | ... | 10 | 0·9 |
| 1882 | .. | ... | 1 | 1 | 7 | ... | 1 | ... | 7 | ... | ... | ... | 1 | 18 | 1·5 |
| 1883 | ... | 8 | ... | ... | 1 | ... | 2 | ... | 1 | 3 | ... | ... | ... | 15 | 1·2 |
| 1884 | ... | ... | 2 | 1 | ... | ... | 2 | ... | 9 | ... | 2 | ... | ... | 16 | 1·2 |
| 1885 | ... | 5 | ... | 5 | ... | ... | 3 | ... | 2 | ... | ... | ... | ... | 15 | 1·1 |
| 1886 | ... | 4 | 1 | 1 | 33 | ... | 1 | ... | 15 | .. | ... | .. | ... | 55 | 4.1 |
| 1887 | ... | ... | 1 | 5 | ... | ... | 1 | ... | 4 | ... | ... | 1 | ... | 12 | 0.9 |
| Tl. | — | 26 | 10 | 17 | 64 | ... | 18 | ... | 54 | 5 | 3 | 2 | 1 | 200 | 1·6 |

## WORTHING URBAN SANITARY DISTRICT.

TABLE 3.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| | YEAR. | Population in middle of the period. | during the 10 years 1878-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| Including Visitors. | In 1878 | 9750 | 168 | 21 | 19 | 26 | 13 | 1723 | 215 | 194 | 266 | 133 |
| | In 1879 | 10200 | 153 | 9 | 18 | 21 | 18 | 1500 | 88 | 176 | 205 | 176 |
| | In 1880 | 10680 | 168 | 29 | 17 | 21 | 13 | 1573 | 271 | 159 | 196 | 121 |
| | In 1881 | 11100 | 170 | 10 | 11 | 23 | 20 | 1531 | 90 | 99 | 207 | 180 |
| | In 1882 | 11550 | 160 | 18 | 17 | 21 | 19 | 1385 | 155 | 147 | 181 | 164 |
| | In 1883 | 12180 | 164 | 15 | 23 | 19 | 15 | 1346 | 123 | 188 | 156 | 123 |
| | In 1884 | 12650 | 205 | 16 | 22 | 31 | 26 | 1620 | 126 | 173 | 245 | 200 |
| | In 1885 | 13040 | 178 | 15 | 14 | 21 | 18 | 1365 | 115 | 107 | 161 | 138 |
| | In 1886 | 13200 | 228 | 55 | 21 | 31 | 18 | 1727 | 416 | 160 | 234 | 136 |
| | In 1887 | 13350 | 231 | 12 | 23 | 45 | 33 | 1730 | 90 | 172 | 337 | 247 |
| | Total | | 1825 | 200 | 185 | 259 | 193 | 1550 | 169 | 157 | 219 | 162 |
| Excluding Visitors. | In 1878 | | 150 | 20 | 15 | 23 | 13 | 1538 | 205 | 153 | 235 | 133 |
| | In 1879 | | 146 | 8 | 18 | 20 | 18 | 1431 | 78 | 176 | 196 | 176 |
| | In 1880 | | 155 | 27 | 15 | 20 | 11 | 1451 | 252 | 140 | 186 | 103 |
| | In 1881 | | 150 | 10 | 9 | 22 | 20 | 1351 | 90 | 81 | 198 | 180 |
| | In 1882 | | 142 | 18 | 15 | 16 | 16 | 1229 | 155 | 130 | 138 | 138 |
| | In 1883 | | 151 | 14 | 21 | 18 | 12 | 1239 | 115 | 172 | 147 | 97 |
| | In 1884 | | 177 | 13 | 19 | 29 | 21 | 1400 | 102 | 150 | 229 | 166 |
| | In 1885 | | 161 | 14 | 14 | 20 | 17 | 1234 | 107 | 107 | 153 | 130 |
| | In 1886 | | 210 | 55 | 17 | 30 | 16 | 1599 | 416 | 129 | 227 | 121 |
| | In 1887 | | 206 | 11 | 20 | 42 | 26 | 1543 | 82 | 150 | 314 | 195 |
| | Total | | 1648 | 190 | 163 | 240 | 170 | 1402 | 160 | 139 | 203 | 144 |

Table A.—Showing the Deaths during the year 1887, in the Urban Sanit
and showing also the Population of s

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | Population at all ages. |  | Registered Births. | Mortality from all Causes at Subjoined ages. |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Census 1881 | Estimated to middle of 1887 |  | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Worthing Urban Sanitary District. | 10976 | 13350 | 327 | 214 | 33 | 18 | 12 | 12 | 53 | 86 | Under 5.<br>5 upwds |
| Worthing Infirmary. |  |  |  | 8 | — | — | 1 | 3 | 3 | 1 | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5 upwds |
|  |  |  |  |  |  |  |  |  |  |  | Under 5.<br>5upwds |
| Totals .................. | 10976 | 13350 | 327 | 222 | 33 | 8 | 13 | 15 | 56 | 87 | Under 5.<br>5 upwds |
| Deaths ccurring outside the district among persons belonging thereto..... ...................... |  |  |  | 9 |  |  |  | 1 | 1 | 7 | Under 5.<br>5 upwds |
| Deaths occurring within the Distrct among persons not belonging thereto... . ......... ..... |  |  |  | 26 | 3 | 3 | 1 | 1 | 11 | 7 | Under 5.<br>5 upwds |

ict of WORTHING, classified according to Diseases, Ages, Localities,
lities, and the Births therein during the year.

rtality from Subjoined Causes, Distinguishing Deaths of Children under Five Years of Age.

| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Cont Fevers | | | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typhus. | Enteric or Typhoid | Other or Doubtful | | | | | | | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| 1 | 2 | | | | | | 4 | | | | | | | | 18 | | 1 | 25 |
| | 3 | | | | | | | | | | 1 | | | 23 | 25 | 32 | 3 | 76 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 2 | 1 | 1 | 4 |
| | | | | | | | | | | | | | | | | | | |
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| 1 | 2 | | | | | | 4 | | | | | | | | 18 | | 1 | 25 |
| | 3 | | | | | | | | | | 1 | | | 23 | 27 | 33 | 4 | 80 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 1 | | | 8 |
| | 1 | | | | | | | | | | | | | | 2 | | | 3 |
| | | | | | | | | | | | | | | 3 | 1 | 7 | 1 | 8 |

TABLE B.—Showing the New Cases of Sickness coming to the knowle
District of WORTHING, cla

| NAMES OF LOCALITIES. 1 | 12 | NEW CASES OF SICKNESS IN PERSONS BEL Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping Coug 18 |
|---|---|---|---|---|---|---|---|
| Worthing Urban Sanitary District. | Under 5 | | | 4 | | | 1 |
| | 5 upwds. | | 1 | 9 | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
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| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Totals | Under 5 | | | 4 | | | 1 |
| | 5 upwds. | | 1 | 9 | | | |

Sources of Information: In Workhouse and Workhouse Infirmar
As Out-Patients of

edical Officer of Health, during the year 1887, in the Rural Sanitary
ling to Localities and Diseases.

| e District, Distinguishing those in Children Under Five Years | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ther or Doubtful 21 | Diarrhœa and Dysentery 22 | Cholera 23 | Rheumatic Fever 24 | Erysipelas 25 | Pyæmia 26 | Puerperal Fever 27 | Ague 28 | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. | |
| ...... | 3<br>......<br>5 | ...... | ...... | ......<br>4 | ...... | ...... | ...... | ...... | ...... |
| .... | ...... | .... | .... | .... | ...... | .... | ...... | ...... | ...... |
| ...... | ...... | ...... | ..... | .. . | .... | ..... | ..... | ...... | ...... |
| ...... | .. . | .... | .. . | .... | .... | .... | .... | ...... | ...... |
| .... | .... | . .. | .. | .... | .... | . .. | .... | ...... | ...... |
| ... | .. . | ..... | ..... | .... | .... | ...... | ..... | ...... | ...... |
| ..... | .... | .... | .... | . .. | .... | .... | .. . | ...... | ...... |
| ..... | .. .. | ..... | .... | ...... | .... | .... | ..... | ...... | ...... |
| ..... | ...... | ...... | .... | .... | . ... | ..... | .... | ...... | ...... |
| ..... | .... | ..... | ...... | ..... | . ... | ...... | ..... | ...... | ...... |
| . .. | .... | .. | .... | .... | .... | .... | ...... | ...... | ...... |
| ..... | 3<br>. ...<br>5 | ..... | .. ... | .. ...<br>4 | ...... | ...... | .. .. | ...... | ...... |

g the Out-door Paupers, 389. As In-patients of Worthing Infirmary,73.
Infirmary, 1376.

# URBAN SANITARY DISTRICT OF LITTLEHAMPTON.

POPULATION, 3,272 IN 1871; 3,926 in 1881. AREA IN ACRES, 925. NO. OF HOUSES, 625 IN 1871; 743 IN 1881.

During the year 1887 the births of 116 children and the deaths of 59 persons were registered; of the births 54 were male and 62 were female; of the deaths 31 were male, and 28 were female.

Eight visitors died during the year, and there were seven deaths in the East Preston Workhouse belonging to this district; these 15 deaths are included in the above number of 59.

Estimating the population at 4180 in the middle of the year the birth-rate was equal to 27·7 per 1000, and the death-rate was equal to 14·1 per 1000 persons living; excluding visitors, the death-rate was equal to 12·2 per 1000.

The births and deaths for the past ten years have been as follows:—

| Year. | Births. | Birth-rate. | Deaths Including Visitors. | Deaths Excluding Visitors. | Death-rate Including Visitors. | Death-rate Excluding visitors. |
|---|---|---|---|---|---|---|
| 1878 | 114 | 30·9 | 60 | 58 | 16·2 | 15·6 |
| 1879 | 117 | 31·2 | 50 | 50 | 13·3 | 13·3 |
| 1880 | 109 | 28·6 | 51 | 45 | 13·3 | 11·8 |
| 1881 | 105 | 26·8 | 58 | 55 | 14·7 | 14·0 |
| 1882 | 94 | 23·6 | 74 | 66 | 18·5 | 16·5 |
| 1883 | 111 | 27·7 | 55 | 54 | 13·7 | 13·5 |
| 1884 | 98 | 24·5 | 44 | 41 | 11·0 | 10·2 |
| 1885 | 81 | 19·7 | 47 | 46 | 11·4 | 11·2 |
| 1886 | 89 | 21·4 | 50 | 48 | 12·0 | 11·5 |
| 1887 | 116 | 27·7 | 59 | 51 | 14·1 | 12·2 |

During the past ten years there have been 1034 births and 514 deaths among the residents in this district, so that the natural increase of the population during this period by excess of births over deaths was, therefore, 520; the births have been twice as numerous as the deaths.

In each quarter the births and deaths were as follows:—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total, |
| 1st Quarter .... | 13 | 10 | 23 | 11 | 7 | 18 |
| 2nd ,, .... | 13 | 18 | 31 | 12 | 4 | 16 |
| 3rd ,, .... | 14 | 20 | 34 | 4 | 10 | 14 |
| 4th ,, .... | 14 | 14 | 28 | 4 | 7 | 11 |
| Total.......... | 54 | 62 | 116 | 31 | 28 | 59 |

A comparison of the births in each quarter during the past ten years shows that the births are most numerous in the first quarter, and least numerous in the last quarter of the year:—

| | 1878-85. | 1886. | 1887. | Total. | Mean |
|---|---|---|---|---|---|
| 1st Quarter...... | 234 | 21 | 23 | 278 | 27·8 |
| 2nd ,, ...... | 199 | 19 | 31 | 249 | 24·9 |
| 3rd ,, ...... | 208 | 28 | 34 | 270 | 27·0 |
| 4th ,, ...... | 188 | 21 | 28 | 237 | 23·7 |
| Total .... | 829 | 89 | 116 | 1034 | 103·4 |

The *Birth-rate* in 1887 throughout England and Wales was equal to 31·4 per 1000 persons estimated to be living in the middle of the year; it was lower than in any previous year since 1838, and it was 2·6 below the mean annual rate in the ten years 1877-86.

The deaths at different groups of ages in each quarter are here shown:—

| | Under one year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter.......... | 1 | — | 1 | 1 | 5 | 10 | 18 |
| 2nd ,, .......... | 3 | 2 | — | 2 | 4 | 5 | 16 |
| 3rd ,, .......... | 4 | 1 | 1 | 1 | 4 | 3 | 14 |
| 4th ,, .......... | — | — | — | 1 | 1 | 9 | 11 |
| Total ........ | 8 | 3 | 2 | 5 | 14 | 27 | 59 |

Taking the average of the past ten years, it appears that the deaths are most numerous in the first and third quarters of the year:—

| | 1878-85. | 1886, | 1887. | Total. | Mean. |
|---|---|---|---|---|---|
| 1st Quarter | 134 | 12 | 18 | 164 | 16·4 |
| 2nd ,, | 90 | 14 | 16 | 120 | 12·0 |
| 3rd ,, | 118 | 15 | 14 | 147 | 14·7 |
| 4th ,, | 97 | 9 | 11 | 117 | 11·7 |
| Total.... | 439 | 50 | 59 | 548 | 54·8 |

The *infant mortality* is here given as measured by the number of deaths in one year of age to the total number of births in the year :—

| Year. | | Births. | Deaths under 1 year. | Ratio to 1000 Births. |
|---|---|---|---|---|
| 1878 | .. | 114 | 15 | 131 |
| 1879 | .. | 117 | 6 | 51 |
| 1880 | .. | 109 | 12 | 110 |
| 1881 | .. | 105 | 11 | 104 |
| 1882 | .. | 94 | 16 | 170 |
| 1883 | .. | 111 | 11 | 99 |
| 1884 | .. | 98 | 3 | 30 |
| 1885 | .. | 81 | 4 | 49 |
| 1886 | .. | 89 | 10 | 112 |
| 1887 | .. | 116 | 8 | 69 |
| | Mean | 103·4 | 9·6 | 93 |

The rate of infant mortality in 1887 throughout England and Wales was equal to 145 per 1000, against 137, 147, 138, and 149 in the four preceding years,

The eight *infantile deaths* included one from diarrhœa, two from convulsions, two from debility, and two from malformation ; one infant was accidentally suffocated in bed.

The deaths from *zymotic*, or catching disorders were 3 in number, against 5, 2, 3, 1, 6, 2, 3, 7, and 11 in the nine preceding years.

These three deaths included one from measles, one from whooping cough, and one from diarrhœa.

The rate of mortality from these disorders was 0·7 per 1000 persons living, aaainst a rate of 1·3, 0·5, 0·7, 0·2, 1·5, 0·5, 0·7, 1·7, and 2·6 in the nine preceding years.

There have been altogether in the past ten years 43 deaths in this class of diseases, or a mean annual rate of 1·0 per 1000 persons living.

### WATER SUPPLY.

During the year regulations were drawn up showing the terms on which water can be supplied and the conditions which must be complied with as regards communication pipes, consumer's pipes, cisterns, baths, overflow and warming pipes, closets, meters, &c. These regulations are drawn on the same lines as those adopted by most urban authorities, care being taken that there shall be no direct connection between the water supply and the drainage system.

## SEWERAGE AND DAINAGE.

Early in the year the following regulations were made under s. 21 of the Public Health Act, 1875, for the proper connection of house drains with the public sewers.

1.—Every person who shall intend to connect any drain with the public sewer shall, before beginning to break the ground or make any connection, give 24 hours' Notice in writing, to be delivered or sent to the Office of the Surveyor to the Local Board between 9.30 a.m. and 5 p.m.; such notice shall state the day and hour on which such person will begin to execute such work.

2.—Every person who shall make any such connection shall execute the work subject to the control of the Surveyor to the Local Board or other person appointed by him to superintend the work.

3.—A person shall not cover up any drain communicating with the public sewer without having first obtained the sanction of the said Surveyor or other person appointed to superintend the work.

4.—Every person who shall make any such connection shall provide within the boundary of his own premises intended to be drained, a suitable trap, at a point as distant as may be practicable from the building, and as near as may be practicable to the point at which such drain may be connected with the sewer.

5.—A person who shall construct any drains shall not form in such drains any right-angled junction, either vertical or horizontal. He shall cause every branch or tributary drain to join another drain obliquely in the direction of the flow of such drain.

6. —Every person who shall construct a new drain shall, for the purpose of securing efficient ventilation of such drain, comply with the following requirements:—

(i.) He shall provide at least two untrapped openings to the drains, and, in the provision of such openings he shall adopt such of the two arrangements hereinafter specified as the circumstances of the case may render the more suitable and effectual.

(*a*.) One opening, being at or near the level of the surface of the ground adjoining such opening, shall communicate with the drain by means of a suitable pipe, shaft, or disconnecting chamber, and shall be situated as near as may be practicable to the trap which shall be provided between the main or other drain of the building, and the sewer or other means of drainage with which such drain may lawfully communicate. Such opening shall also in every case be situated on that side of the trap which is nearer to the building.

The second opening shall be obtained by carrying up from a point in the drain, as far distant as may be practicable from the point at which the first-mentioned opening shall be situated, a pipe or shaft, vertically to such a height and in such a manner as effectually to prevent any escape of foul air from such point or shaft into any building in the vicinity thereof, and in no case to a less height than *ten feet*.

(*b*). In every case where the foregoing arrangement of the openings to the drains may be impracticable, there shall be substituted the arrangement next hereinafter described.

One opening shall be obtained by carrying up from a point, as near as may be practicable to the trap, which shall be provided between the main or other drain of the building and the sewer or other means of drainage with which such drain may lawfully communicate, a pipe or shaft, vertically, to such a height and in such a manner as effectually to prevent any escape of foul air from such pipe or shaft into any building in the vicinity thereof, and in no case to a less height than *ten feet.* Such opening shall also in every case be situated on that side of the trap which is nearer to the building.

The second opening, being at a point in the drain as far distant as may be practicable from the point at which such last-mentioned pipe or shaft shall be carried up, shall be at or near the level of the surface of the ground adjoining such opening, and shall communicate with the drains by means of a suitable pipe or shaft.

(ii.) He shall cause every opening provided in accordance with either of the arrangements herein-before specified to be furnished with a suitable grating or other suitable cover, for the purpose of preventing any obstruction in or injury to any pipe or drain by the introduction of any substance through any such opening. He shall, in every case, cause such grating or cover to be so constructed and fitted as to secure the free passage of air through such grating or cover by means of a sufficient number of apertures, of which the aggregate extent shall not be less than the sectional area of the pipe or drain to which such grating or cover may be fitted.

(iii.) Every pipe or shaft which may be used in connection with either of the arrangements herein-before specified shall be of a sectional area not less than that of the drain with which such pipe or shaft may communicate, and not less in any case than the sectional area of the pipe or shaft of the diameter of *four inches.*

(iv.) No bend or angle shall (except where unavoidable) be formed in any pipe or shaft used in connection with either of the arrangments herein-before specified.

(v.) Provided always, that for the purpose of either of the arrangments herein-before specified, the soil pipe of any water closet, in every case where the situation, sectional area, height, and mode of construction of such soil pipe shall be in accordance with the byelaw in that behalf, and the requirements applicable to the pipe or shaft to be carried up from the drain, may be deemed to provide the necessary opening for ventilation which would otherwise be obtained by means of such last-mentioned pipe or shaft.

8.—A person who shall connect his drains with the sewers shall not construct any such drain in such a manner as to allow any inlet to such drain (except such inlet as may be necessary from the apparatus of any water closet) to be made within the house or building for which such drain is provided.

He shall cause the soil pipe from every water closet to be at least four inches in diameter, and to be continued upwards without diminution of its diameter, and (except where unavoidable) without any bend or angle being formed in such soil pipe, to such a height and in such a position as to afford, by means of the open end of such soil pipe, a safe outlet for sewer air.

He shall so construct such soil pipe that there shall not be any trap between such soil pipe and the drains, or any trap (other than such as may necessarily form part of the apparatus of any water closet) in any part of such soil pipe.

He shall cause the waste pipe from every bath, sink (not being a slop sink constructed or adapted to be used for receiving any solid or liquid filth), or lavatory, the overflow pipe from any cistern, and from every safe under any bath or water closet, and every pipe in a building for carrying off waste water, to be taken through an external wall of such building, and to discharge in the open air over a channel leading to a trapped gulley grating at least eighteen inches distant.

He shall, as regards the mode of construction of the waste pipe from any slop sink constructed or adapted to be used for receiving within any building any solid or liquid filth, comply in all respects with such of the provisions of this regulation as are applicable to the soil pipe from a water closet.

9.—He shall cause every closet basin or pan, or urinal, to be supplied with a proper and sufficient flushing apparatus to the satisfaction of the Surveyor.

10.—Every cesspool and privy pit shall be cleansed and solidly filled up with dry rubbish, at the expense of the owner, and to the satisfaction of the Surveyor.

## STREET WATERING WITH SEA-WATER.

The Local Board having resolved to use sea-water for watering the streets, plans were prepared by Mr. Howard, the Town Surveyor, at a total cost of about £1000, the contractor being Mr. W. H. Dearle, of Chichester. The works were completed in September and a great saving of fresh water is anticipated. By the use of salt water the roads are kept moister for a longer period than when fresh water is used, and therefore there is a considerable economy on the score of labour.

Mr. S. H. Terry, an inspector of the Local Government Board speaks of the works with much approval in a paper recently read before the Civil and Mechanical Engineers' Society. The engine house is situated in Surrey Street, near the Old Quay Wharf, it is built of brick and is about 20 feet square. The tank at the top is of $\frac{7}{8}$ inch cast iron, and is capable of holding 20,500 gallons. This quantity of sea-water is raised in about three hours by a horizontal action pump driven by a 2 h.-p. (nominal) Otto Gas Engine of Crossley Bros. make. The volume of gas consumed to raise the above quantity of water is about 270 cubic feet, or about 1s. worth at the present price of gas. There are about 900 lineal yards of distributing mains, and three drawing off stations in the town from stand posts. Provision has been made for extension of the works by adding to the height of the tank, and by laying larger mains than are at present necessary. Apart from the fact that the raising of sea-water can be done at a cheaper rate than fresh, in consequence of the reduced lift—the well at the water works is a deep one, whilst sea-water has only to be raised from sea level—it is estimated that there will be a saving of at least 20,000 gallons of the town water per day during the dry seaaon, at a time when the greatest strain is put on the supply when the yield of the well is diminishing.

The following comparative statement shows the changes that have taken place during three periods:—from 1875-78, before the works of water-supply and sewerage were carried out; from 1879-83, when the works were being carried out; and in 1883-87, since the completion of the works.

| Per 100,000 Persons living. | 1875-78 | 1879-82. | 1883-87. |
|---|---|---|---|
| *All ages, both sexes.* | | | |
| General Death-rate ......... | 1488 | 1500 | 1247 |
| Zymotic ,, ......... | 153 | 76 | 126 |
| Phthisis ,, ......... | 202 } 439 | 168 } 377 | 108 } 284 |
| Lung Disease ......... | 237 | 209 | 176 |
| 15 *to* 55 *years.* | | | |
| Phthisis Death-rate ......... | 258 mean<br>248 female | 290 mean<br>230 female | 190 mean<br>156 female |
| Lung Disease Death-rate ... | 68 mean<br>25 female | 63 mean<br>23 female | 133 mean<br>70 female |
| Under 1 year .................. | 10550 | 11718 | 7059 |
| Under 5 years ........ ...... | 3324 | 3630 | 2131 |

The cost per annum is estimated as follows:—

| | £ | s. | d. |
|---|---|---|---|
| Loan, £850, at 4 per cent., annual repayment, principal and interest in 30 years ...................... | 54 | 3 | 2 |
| Depreciation and repairs, 5 per cent .. | 42 | 10 | 0 |
| Wages, Gas, &c...................... | 53 | 6 | 10 |
| | £150 | 0 | 0 |

The rateable value of the town is about £20,000, and the cost is therefore, equal to 9d. per head of population, or 1¾d. in the pound on rateable value.

The soil on which the town is built consists of a loamy brick-earth overlaying the chalk. Water can be obtained within 15 to 20 feet of the surface.

The influence of this soil on the three following diseases is here shown:—

| | | Death-rate in 1876-85 per 1,000,000 persons living from | | |
|---|---|---|---|---|
| SOIL. | Population in middle of the period. | Phthisis. | Lung-disease. | Diphtheria. |
| Moderately Pervious...... | 3920 | 1454 | 1836 | 102 |

## COWSHEDS AND DAIRIES.

There are seven cowsheds and dairies in the town, and some of them require improvement as regards the flooring and drainage. Regulations were drawn up by this Authority, which came into operation on September 1st, 1887.

*Inquests* were held in two cases:—Female, 40 years, concussion of the brain caused by an accident; female, 28 days, accidentally suffocated in bed.

There was no death returned as " not ceftified " during the year.

There was no death during the year of any child born out of wedlock.

There are three slaughter-houses, which are frequently inspected, and are kept in a cleanly state.

There are eight bake-houses, and these have been kept clean during the year.

The two common lodging houses are also well kept.

There were no cases of overcrowding dealt with during the year.

There were no cases in which it was necessary to condemn meat or any other article of food.

No proceedings were taken before the Bench during the year.

# LITTLEHAMPTON URBAN SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 .................... | 60 | 15 | 5 | 7 | 1 | 14 | 18 |
| 1879 .................... | 50 | 6 | 3 | 4 | 3 | 12 | 22 |
| 1880 .................... | 51 | 12 | 7 | 3 | 2 | 13 | 14 |
| 1881 .................... | 58 | 11 | 4 | — | 3 | 16 | 24 |
| 1882 .................... | 74 | 16 | 11 | 2 | 3 | 18 | 24 |
| 1883 .................... | 55 | 11 | 2 | 2 | 1 | 15 | 24 |
| 1884 .................... | 44 | 3 | — | 2 | 5 | 14 | 20 |
| 1885 .................... | 47 | 4 | 7 | 1 | 2 | 16 | 17 |
| 1886 .................... | 50 | 10 | 7 | 2 | 1 | 10 | 20 |
| 1887 .................... | 59 | 8 | 3 | 2 | 5 | 14 | 27 |
| Total.................... | 548 | 96 | 49 | 25 | 26 | 142 | 210 |
| In 1,000 Deaths ...... | 1000 | 175 | 90 | 46 | 47 | 259 | 383 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1878 | ... | ... | 3 | ... | ... | ... | .. | ... | 1 | .. | ... | ... | 1 | 5 | 1.3 |
| 1879 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | .. | ... | 2 | 0·5 |
| 1880 | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 | 0·7 |
| 1881 | ... | 1 | ... | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... | 1 | 0·2 |
| 1882 | .. | 2 | ... | ... | 3 | ... | 1 | ... | .. | ... | ... | ... | ... | 6 | 1·5 |
| 1883 | ... | ... | ... | ... | ... | .. | ... | ... | 2 | ... | ... | ... | ... | 2 | 0·5 |
| 1884 | ... | ... | .. | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | 3 | 0·7 |
| 1885 | ... | 1 | ... | 1 | ... | ... | ... | 3 | 1 | ... | 1 | ... | ... | 7 | 1·7 |
| 1886 | 1 | 2 | ... | ... | 4 | ... | .. | ... | 3 | 1 | ... | ... | ... | 11 | 2.6 |
| 1887 | ... | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | .. | ... | 3 | 0.7 |
| Tl. | 1 | 9 | 3 | 3 | 9 | ... | 1 | 3 | 10 | 1 | 2 | ... | 1 | 43 | 1·0 |

## LITTLEHAMPTON URBAN SANITARY DISTRICT.

TABLE 3.—Showing the Deaths and Death-rate from all causes and from various causes in different localities in the 10 years 1878-87.

| | YEAR. | Population in middle of the period. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Including Visitors. | In 1878.................. | 3688 | 60 | 5 | 8 | 5 | 3 | 1626 | 135 | 219 | 135 | 81 |
| | In 1879.................. | 3760 | 50 | 2 | 6 | 5 | 5 | 1333 | 53 | 159 | 130 | 130 |
| | In 1880.............. ... | 3830 | 51 | 3 | 8 | 6 | 4 | 1335 | 78 | 209 | 156 | 105 |
| | In 1881 ................ | 3930 | 58 | 1 | 7 | 6 | 8 | 1475 | 25 | 178 | 152 | 204 |
| | In 1882.................. | 3980 | 74 | 6 | 5 | 16 | 4 | 1859 | 150 | 125 | 400 | 100 |
| | In 1883.................. | 4000 | 55 | 2 | 5 | 9 | 3 | 1375 | 50 | 125 | 225 | 75 |
| | In 1884 ............... | 4000 | 44 | 3 | 5 | 5 | 5 | 1100 | 75 | 125 | 125 | 125 |
| | In 1885............ ..... | 4100 | 47 | 7 | 4 | 4 | 7 | 1146 | 170 | 97 | 97 | 170 |
| | In 1886....... ......... | 4150 | 50 | 11 | 3 | 11 | 1 | 1205 | 265 | 72 | 265 | 24 |
| | In 1887....... .. ...... | 4180 | 59 | 3 | 5 | 7 | 6 | 1411 | 71 | 119 | 167 | 143 |
| | Total............ | | 548 | 43 | 56 | 74 | 46 | 1370 | 107 | 140 | 185 | 115 |
| Excluding Visitors. | In 1878 ........... ... | | 58 | 5 | 8 | 5 | 3 | 1572 | 135 | 219 | 135 | 81 |
| | In 1879........... ..... | | 50 | 2 | 6 | 5 | 5 | 1333 | 53 | 159 | 130 | 130 |
| | In 1880.............. . | | 45 | 3 | 5 | 6 | 4 | 1180 | 78 | 130 | 156 | 105 |
| | In 1881 ............ .. | | 55 | 1 | 7 | 6 | 8 | 1400 | 25 | 178 | 152 | 204 |
| | In 1882.................. | | 66 | 4 | 4 | 15 | 3 | 1658 | 150 | 100 | 375 | 75 |
| | In 1883............. .. | | 54 | 2 | 5 | 9 | 3 | 1350 | 50 | 125 | 225 | 75 |
| | In 1884.................. | | 41 | 2 | 5 | 5 | 4 | 1025 | 75 | 125 | 125 | 100 |
| | In 1885... ............ | | 46 | 7 | 4 | 4 | 7 | 1121 | 170 | 97 | 97 | 170 |
| | In 1886.................. | | 48 | 11 | 3 | 11 | 1 | 1156 | 265 | 72 | 265 | 24 |
| | In 1887.................. | | 51 | — | 5 | 6 | 4 | 1220 | — | 119 | 143 | 95 |
| | Total............ | | 514 | 37 | 52 | 72 | 42 | 1285 | 92 | 130 | 180 | 105 |

TABLE A.—Showing the Deaths during the year 1887, in the Urban Sa
Localities, and showing also the Population of

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. 1 | POPULATION AT ALL AGES. | | Registered Births. 4 | MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. | | | | | | | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CENSUS 1881 2 | Estimated to middle of 1887 3 | | At all ages. 5 | Under 1 year. 6 | 1 and under 5. 7 | 5 and under 15. 8 | 15 and under 25. 9 | 25 and under 60. 10 | 60 and upwds. 11 | |
| Littlehampton Urban Sanitary District. | 3926 | 4180 | 116 | 52 | 8 | 3 | 2 | 5 | 12 | 22 | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5 upw |
| | | | | | | | | | | | Under<br>5 upwd |
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| | | | | | | | | | | | Under<br>5 upwd |
| | | | | | | | | | | | Under<br>5 upwd |
| | | | | | | | | | | | Under<br>5upwd |
| TOTALS ................. | 3926 | 4180 | 116 | 52 | 8 | 3 | 2 | 5 | 12 | 22 | Under<br>5 upwd |
| Deaths occurring outside the district among persons belonging thereto..... ..................... | | | | 7 | | | | | 2 | 5 | Under<br>5 upwd |
| Deaths occurring within the Distrct among persons not belonging thereto... ........... ..... | | | | 8 | 3 | 1 | | 1 | 1 | 2 | Under<br>5 upwd |

ict of LITTLEHAMPTON classified according to Diseases, Ages
ities, and the Births therein during the year.

RTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

|  |  |  |  | Cont Fevers |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Typhus. | Enteric or Typhoid | Other or Doubtful | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|  |  |  | 1 |  |  |  | 1 |  |  |  |  |  |  |  |  |  | 1 | 7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 | 5 | 6 | 2 | 23 |
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|  |  |  | 1 |  |  |  | 1 |  |  |  |  |  |  |  |  |  | 1 | 7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 | 5 | 6 | 2 | 23 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  | 1 |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  | 1 |
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TABLE B.—Showing the New Cases of Sickness coming to the knowle
District of LITTLEHAMPTON, cl

| NAMES OF LOCALITIES. 1 | NEW CASES OF SICKNESS IN PERSONS BEL 12 | Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping 18 |
|---|---|---|---|---|---|---|---|
| Littlehampton Urban Sanitary District. | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
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| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Totals | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |

Sources of Information: In Workhouse and Workhouse Infirma
As Out-Patients o

Medical Officer of Health during the year 1887, in the Combined Sanitary
rding to Localities and Diseases.

HE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS

| rs. Other or Doubtful 21 | Diarrhœa and Dysentery 22 | Cholera 23 | Rheumatic Fever 24 | Erysipelas 25 | Pyæmia 26 | Puerperal Fever 27 | Ague 28 | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. | |
|---|---|---|---|---|---|---|---|---|---|
| ...... | ...... | ..... | ...... | ...... | ...... | ...... | ...... | ............ | .................... |
| .... | ..... | ..... | .... | .... | .... | .... | .... | ............ | ............ |
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| ...... | ..... | ..... | ..... | .... | ..... | ..... | ..... | ............ | ............ |
| ...... | ..... | ..... | .... | .... | ..... | .... | ..... | ............ | ............ |
| ...... | ...... | .... | ..... | .... | ..... | ..... | .... | ............ | ............ |
| .... | .... | ..... | ...... | .... | ..... | ..... | .... | ............ | ............ |
| ... | ..... | ... | ..... | .... | .... | .... | ...... | ............ | ............ |
| ...... | .... | ..... | ..... | ...... | ...... | ...... | ... | ............ | ............ |

ng the Out-door Paupers, 69. As In-patients of Hospitals, 1.
pitals, 2.

# URBAN SANITARY DISTRICT OF WEST WORTHING.

Population, 276 in 1871; 689 in 1881. Area in Acres, 350.
No. of Houses, 40 in 1871; 89 in 1881.

During the year 1887 the births of 18 children and the deaths of 12 persons were registered; of the births 13 were male and 5 were female; of the deaths 2 were male and 10 female.

Estimating the population in the middle of the year at 1,300 the birth-rate was equal to 13 8 per 1000, and the death-rate was equal to 9·2 per 1,000 persons living.

The births and deaths for the past ten years were as follows:—

| Year. | Births. | Birth-rate. | Deaths, | Death-rate. |
|---|---|---|---|---|
| 1878 | 8 | 14·5 | 1 | 1·8 |
| 1879 | 11 | 18·3 | 7 | 11·6 |
| 1880 | 13 | 20 0 | 5 | 7·7 |
| 1881 | 12 | 17·1 | 5 | 7·1 |
| 1882 | 12 | 15·8 | 10 | 13·1 |
| 1883 | 10 | 11·7 | 12 | 14·1 |
| 1884 | 9 | 9·0 | 9 | 9·0 |
| 1885 | 7 | 6·3 | 8 | 7·3 |
| 1886 | 11 | 9·1 | 15 | 12·5 |
| 1887 | 18 | 13·8 | 12 | 9·2 |

The exceptional distribution of the population as to age and sex accounts for the low birth and death rates.

The twelve deaths in 1887 included three from heart disease, two from consumption, one from cancer, one from abscess, one from lymphadenoma, one from peritonitis, one from rheumatic fever, and one from old age; one infant was born prematurely.

One infant died under one year of age, so that the *infant* mortality, as measured by the number of deaths under one year of age to the total number of births in the year was 55 per 1,000. In the past ten years ten infants have died out of 111 births, so that the mean anuual rate of *infant mortality* is equal to 90 deaths to every 1,000 children born.

There were no deaths from any form of zymotic disease, and the district was in a very healthy state during the year.

In the past ten years there have been eleven deaths in this class of disorders, or an annual mean rate of 1·1 per 1,000 persons living.

### SEWAGE AND DRAINAGE.

The question of dealing with the sewage at the outfall was much discussed during the year, and the following report by Mr. Baldwin Latham shows his views on the subject at the close of the year: —

"I have to report to you in reference to the proposed new sea outfall for West Worthing, that before considering the matter it was necessary to make a number of tidal observations, especially on the rise and fall of the tide, and the long period occupied in making these observations has delayed my report. The result of the tidal observations made at Worthing Pier together with other information on the flow of the tides, enables me to advise you with some confidence what course you ought to adopt in providing a new system of sewerage, and an outfall for your district.

With reference to the proposed position of the intended outfall, the spot selected appears to have been well chosen, as being immediately outside the Western Boundary of your district which is the proper position for an outfall in this place, for the simple reason that in all cases of natural outfalls into the sea, the greatest amount of sewage is discharged on the ebb tide, and in this particular case the greatest portion of the ebb tide flows in a westerly direction.

According to the observations of the Admiralty in this neighbourhood it appears that the tide turns and flows to the west, one hour and twenty minutes before high water, and continues to flow in that direction until a similar time before low water.

By reference to the observations which have been made with floats under the authority of the Worthing Local Board, it appears from observations made with a buoy moored at the point of intending outfall in May and June of the present year, that upon one occasion the easterly movement of the tide commenced forty minutes before low water. In some cases it commenced at low water and in some instances after low water. While observations made with floats (not however, at the same time) tend to show that the easterly movement commenced in one instance as much as three hours forty five minutes before low water.

I am utterly at a loss to reconcile these observations except that it is quite clear in the case of the floats, that their course was regulated by the wind and not by the tides, but still the mean result, between the observations taken with the buoy and floats agree pretty fairly with the Admiralty observations.

It may therefore be taken for granted that if it is desirable to prevent any sewage flowing to the eastwards of the proposed outfall, the discharge of sewage must terminate one and a half hours before low water.

It is also desirable that the sewage shall not be penned up to an undue altitude in the proposed new outfall sewer, so that when the tanks are full the discharge should not commence until the tide has fallen to a level 3·50 above ordnance datum. The time available for the purpose of discharge under these conditions varies but slightly whether Neap-tide or Spring-tide. and it may be taken that in order to enable the whole of the sewage to be discharged, so as to pass off in the westerly direction, the period of discharge must be limited to a little over 160 minutes each tide.

In order, however, to secure the discharge taking place on all tides, in the time named, it would be necessary that the sewage tank should be constructed at a somewhat different level than has been proposed. The great difficulty of discharge in this and many other cases occurs with Neap-tides, when low water occasionally only falls to 2·5 below ordnance datum as on 10th October last.

The proposed level of the tank is intended to be constructed at a mean of about 3·61 below ordnance datum, or at such a period more than a foot of sewage would be left at low water in the sewage tanks. It is desirable that the floor of these tanks should be lifted to a level of 1·5 below ordnance datum and at this level on the ebb-tide the whole of the sewage would pass in a westerly direction. I may point out, however, that the outlet pipe from the tanks should be kept low so as its invert immediately at the outlet of the tanks should be not less than 3·5 below ordnance datum, so that it may have its full discharging capacity to the very end of the flow from the tanks, as in the position, at present proposed its discharging capacity will fall off most materially when there is a small depth of sewage remaining in the tanks.

I have also considered the question of what the works are capable of discharging.

It should be borne in mind that the inclination of the iron outfall has no influence whatever upon the discharge through it, as the discharge of the sewage into the sea entirely depends upon the difference of level of the sewage inside the tank, and the level of the sea outside, after making allowance for the difference in specific gravity of sea-water over sewage and the resistances in the outfall itself. Length of outfall tends materially to diminish its discharging capacity, totally regardless of the inclination at which it is laid.

The proposed 2ft. outfall sewer in 160 minutes would be capable of discharging 33,168 cubic feet in each tide or 209,180 gallons, being a rate of 418,318 gallons in a tidal day, which is equivalent to a discharge of 404,201 gallons each day of 24 hours. This is equivalent to one inch of rainfall carried in 24 hours from a district inhabited by 3,300 people, together with the sewage of 3,300 people, taken at 30 gallons per head per day or three times the present population of West Worthing.

The proposed tanks, assuming the sewage is headed up to four feet above ordnance datum, and let down to 3½feet below ordnance datum, or 7½ feet in depth, each tank would hold 9,000 cubic feet, or the two tanks 18,000 cubic feet, or 112,500 gallons. It would, therefore, be noted that as the discharging capacity of the outlet pipe in one tide is almost equal to twice the storing capacity, it follows that whatever the height of the sewage within the reservoir, the discharge pipe has got twice the power of carrying it away. So that any accumulation, whatever the height of the water within the reservoir it will be completely emptied at the end of the period in which the discharge should take place.

Under ordinary conditions of discharge the velocity of flow in this 2ft. outfall pipe would not be sufficient to keep it cleansed and would require to be regularly flushed which can be readily done at any time by simply holding up the sewage in the reservoir until it has a level of eighteen inches above that of the sea, this can be done by simply delaying the operations of openings the penstock for a short period. The discharge taking place under such conditions as these would effectually flush the outfall and at the same time get rid of the sewage at a very much faster rate than under ordinary conditions of discharge, so that no inconvenience could arise at the end of the period when the valves should be closed in order to prevent any flow in the easterly direction.

As to what should be the capacity of the reservoir, that all depends upon the amount of sewage it is considered desirable to store. If provision is made for one inch of rainfall from the present population and sewage at the rate of 30 gallons per head per day, including leakage into the sewers, then provision would have to be made for 143,000 gallons per day of 24 hours, which is equal to 148,900 gallons in a tidal day, which in its turn amounts to 12,000 gallons per hour, the storage required would be 9¾ hours or 116,000 gallons which practically does not differ very much from the storage which is proposed to be provided. If, however, the storage is intended for a larger population than now inhabits the district, arrangements should be made so that the storage capacity can be added to from time to time, as the requirements of the case demand. Of course by lifting up the level of the floor of the proposed tanks, it is necessary that either the tanks should be increased in length or in breadth in order to supply the deficiency of storage which would take place, and I should also recommend that arrangements should be made in connection with the outfall from the tanks so that the storm water in case of exceptional rains may discharge the moment the level of the tide would permit, as the discharge of very dilute sewage at such times and at the point selected for the outfall could not be of any detriment whatever to the neighbourhood. With the alteration suggested, the ordinary sewage would be discharged within distinct limits so that no sewage would be deposited upon the shores by the tidal action, and although the prevailing winds are south-westerly and would tend to take floating substances in an easterly direction, with such an extended outfall as proposed owing to the very potent influence of sea water in precipitating sewage, there is not the slightest chance of any annoyance arising in the neighbourhood of the proposed outfall.

The volumn of sewage also proposed to be discharged IS INFINITESIMAL compared WITH THE ENORMOUS MASS OF SEA-WATER WITH WHICH IT MUST MIX before (even if THE CURRENTS WERE FAVOURABLE) it could ever pass on to the shore. The proposed outfall would pass into the sea, a distance ABOUT THREE TIMES GREATER THAN THE OUTFALL OF THE WORTHING LOCAL BOARD, and as the discharge only would take place on the ebb tide when the current of tidal water is directly off the shore, the proposed conditions of discharge ARE VASTLY SUPERIOR TO ANY OTHER SEA OUTFALL IN THIS NEIGHBOURHOOD.

The proposed outfall ought to be carried to such a point that its end shall be made to dip below the level of low water of the lowest spring tides and probably as these tides may be found to fall to the level of about 9 feet below ordnance datum the pipes should be made to dip entirely below the level of the lowest water so as to effectually stop at all stages of the tide any currents of air from passing upwards.

Proper penstocks and tidal valves and stop grooves in the brick-work, ought to be supplied at the tanks for use in case of accident and such arrangements should be made in the construction of the sewage chambers that they may be worked together or separately. It is entirely unneccessary to put any ventilating pipe into this outfall, as the end of this pipe where it enters the manhole should be left open, the penstock being placed on the division wall of this manhole in which the storm overflow would also be provided.

The proposed outfall may with great advantage be constructed in a trench in the sand and chalk of the foreshore, so that it would be altogether out of sight, except for a short length at its outer end—this in my judgment will both cheapen its construction and cause it to be less difficult to maintain.

I am clearly of opinion that you cannot select a better position for the intended outfall, and if the works are carried out at the level and under the conditions herein suggested that such works will effectually dispose of the sewage of your district, without nuisance to yourselves or your neighbours."

This report should be read in conjunction with Mr. Mansergh's report given on p.p. 116—119.

The following table gives a summary of the death-rate fromall causes and from various causes during two recent periods.

| Per 100,000 persons living All ages, both sexes. | 1877-81. | 1882-87. |
|---|---|---|
| General Death-rate | 700 | 1086 |
| Zymotic ,, | 33 | 158 |
| Phthisis ,, | 66 | 95 |
| Lung Disease | 33 | 63 |
| Heart Disease | 100 | 190 |
| Under 1 year | 11666 | 5555 |
| Under 5 years | 2258 | 2057 |

The influence of soil on three different diseases is here shown :—

| SOIL. | Population in middle of the period. | Death-rate in 1876-85 per 1,000,000 persons living from | | |
|---|---|---|---|---|
| | | Phthisis | Lung-Disease. | Diphtheria. |
| Moderately Pervious .... | 680 | 7353 | 2941 | nil. |

No inquests were held during the year.

There were no deaths returned as "not certified, nor was there a death of any child born out of wedlock.

No cases of overcrowding had to be abated.

No cases arose during the year in which it was necessary to condemn meat or any other article of food which had been exposed for sale.

There is no common lodging-house or slaughter-house in the district.

No proceedings were taken before the magistrates during the year.

Table B is not given, as there were no new cases of pauper sickness.

# WEST WORTHING URBAN SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the 10 years, 1878-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 ...................... | 1 | — | — | — | — | 1 | — |
| 1879 ...................... | 7 | 1 | — | — | — | 2 | 4 |
| 1880 ...................... | 5 | 2 | — | — | 1 | — | 2 |
| 1881 ...................... | 5 | 1 | — | — | — | 1 | 3 |
| 1882 ...................... | 10 | 2 | — | 2 | 1 | — | 5 |
| 1883 ...................... | 12 | 2 | 1 | 1 | — | 7 | 1 |
| 1884 ...................... | 9 | 1 | 1 | — | — | 5 | 2 |
| 1885 ...................... | 8 | 1 | — | 1 | — | 3 | 3 |
| 1886 ...................... | 15 | 1 | 4 | 2 | — | 3 | 5 |
| 1887 ...................... | 12 | 1 | 1 | — | — | 6 | 4 |
| Total...................... | 84 | 12 | 7 | 6 | 2 | 28 | 29 |
| In 1,000 Deaths ...... | 1000 | 143 | 83 | 72 | 24 | 333 | 345 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 10 years 1878-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. Typhus. | Con. Fevers. Enteric. | Con. Fevers. Other. | Diarrhœa and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1878 | ... | ... | ... | ... | ... | ... | .. | ... | ... | .. | ... | ... | ... | — | 0.0 |
| 1879 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | — | 0·0 |
| 1880 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1·5 |
| 1881 | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... | — | 0·0 |
| 1882 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2·6 |
| 1883 | ... | ... | ... | ... | ... | .. | 2 | ... | ... | ... | ... | ... | ... | 2 | 2·3 |
| 1884 | ... | ... | .. | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1·0 |
| 1885 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | — | 0·0 |
| 1886 | ... | 1 | ... | ... | ... | ... | .. | ... | 3 | ... | ... | ... | ... | 4 | 3·3 |
| 1887 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | ... | 1 | 0·7 |
| Tl. | — | 3 | — | — | 2 | — | 2 | — | 3 | 1 | — | — | — | 11 | 1·1 |

TABLE A.—Showing the Deaths during the year 1887, in the Urban Sa
Localities, and showing also the Population of

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. 1 | POPULATION AT ALL AGES. Census 1881 2 | POPULATION AT ALL AGES. Estimated to middle of 1887 3 | Registered Births. 4 | MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. At all ages. 5 | Under 1 year. 6 | 1 and under 5. 7 | 5 and under 15. 8 | 15 and under 25. 9 | 25 and under 60. 10 | 60 and upwds. 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| West Worthing Urban Sanitary District. | 689 | 1300 | 18 | 12 | 1 | 1 | | | 6 | 4 | Unde<br>……<br>5 upw |
| | | | | | | | | | | | Unde<br>……<br>5 up |
| | | | | | | | | | | | Unde<br>……<br>5 up |
| | | | | | | | | | | | Unde<br>……<br>5 up |
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| | | | | | | | | | | | Und<br>……<br>5 up |
| | | | | | | | | | | | Und<br>……<br>5 up |
| | | | | | | | | | | | Und<br>……<br>5upv |
| TOTALS ……………… | 689 | 1300 | 18 | 12 | 1 | 1 | | | 6 | 4 | Und<br>……<br>5 up |
| Deaths occurring outside the district among persons belonging thereto………………………… | | | | | | | | | | | Und<br>……<br>5 up |
| Deaths occurring within the Distrct among persons not belonging thereto…………………… | | | | 3 | 1 | | | | 1 | 1 | Und<br>……<br>5 up |

rict of WEST WORTHING classified according to Disease, Ages
lities, and the Births therein during the year.

ORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| Scarlatina. 15 | Diphtheria. 16 | Croup (not "spasmodic") 17 | Whooping Cough. 18 | Cont Fevers | | | Diarrhœa and Dysentery. 22 | Cholera. 23 | Rheumatic Fever. 24 | Erysipelas. 25 | Pyæmia. 26 | Puerperal Fever. 27 | Ague. 28 | Phthisis. 29 | Bronchitis, Pneumonia, & Pleurisy. 30 | Heart Disease 31 | Injuries. 32 | Other Diseases 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typhus. 19 | Enteric or Typhoid 20 | Other or Doubtful 21 | | | | | | | | | | | | |
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## URBAN SANITARY DISTRICT OF ARUNDEL.

POPULATION, 2,956 IN 1871; 2,748 IN 1881. AREA IN ACRES, 1969. NO OF HOUSES, 546 IN 1871; 552 IN 1881.

During the year 1887 the births of 64 children and the deaths of 77 persons were registered; of the births, 28 were male and 36 were female; of the deaths, 39 were male and 38 were female.

These figures include the deaths of seven persons in the East Preston Workhouse which is outside this district.

Estimating the population in the middle of the year at 2,750 the birth-rate was equal to 23·2 per 1000, and the death-rate was equal to 28·0 per 1000 persons living.

The births and deaths for the past six years have been as follows:—

| Year. | Births. | Birth-rate. | Deaths, | Death-rate. |
|---|---|---|---|---|
| 1882 | 82 | 30·0 | 50 | 18·1 |
| 1883 | 71 | 25·8 | 45 | 16·3 |
| 1884 | 70 | 25·4 | 40 | 14·5 |
| 1885 | 69 | 25·1 | 37 | 13·4 |
| 1886 | 66 | 23·1 | 42 | 15·2 |
| 1887 | 64 | 23·2 | 77 | 28·0 |

In each quarter the births and deaths were as follows:—

| | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. |
| 1st Quarter .... | 7 | 11 | 18 | 13 | 9 | 22 |
| 2nd ,, .... | 9 | 10 | 19 | 6 | 9 | 15 |
| 3rd ,, .... | 7 | 7 | 14 | 9 | 10 | 19 |
| 4th ,, .... | 5 | 8 | 13 | 11 | 10 | 21 |
| Total.......... | 28 | 36 | 64 | 39 | 38 | 77 |

The births are most numerous in the first quarter of the year:—

| | 1883. | 1884. | 1885. | 1886. | 1887. | Total. |
|---|---|---|---|---|---|---|
| 1st Quarter | 21 | 20 | 25 | 25 | 18 | 109 |
| 2nd ,, | 17 | 16 | 15 | 18 | 19 | 85 |
| 3rd ,, | 15 | 14 | 12 | 14 | 14 | 69 |
| 4th ,, | 18 | 20 | 17 | 9 | 13 | 77 |
| Total ... | 71 | 70 | 69 | 66 | 64 | 340 |

The deaths at different groups of ages in each quarter are here shown:—

| | Under one year. | 1—5. | 5—15. | 15—25. | 25—60. | 60 and over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter.......... | 2 | 1 | 1 | 2 | 8 | 8 | 22 |
| 2nd " .......... | 1 | 1 | — | 1 | 7 | 5 | 15 |
| 3rd " .......... | 2 | 2 | 2 | — | 6 | 7 | 19 |
| 4th " .......... | 3 | 3 | — | — | 7 | 8 | 21 |
| Total ........ | 8 | 7 | 3 | 3 | 28 | 28 | 77 |

The deaths are most numerous in the first quarter of the year:—

| | 1883. | 1884. | 1885. | 1886. | 1887. | Total. |
|---|---|---|---|---|---|---|
| 1st Quarter | 12 | 10 | 13 | 14 | 22 | 71 |
| 2nd " | 6 | 7 | 8 | 9 | 15 | 45 |
| 3rd " | 10 | 19 | 7 | 8 | 19 | 63 |
| 4th " | 17 | 4 | 9 | 11 | 21 | 62 |
| Total.... | 45 | 40 | 37 | 42 | 77 | 241 |

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year:—

| Year. | | Births. | Deaths under 1 year. | Ratio to 1000 Births. |
|---|---|---|---|---|
| 1883 | .. | 71 | 6 | 84 |
| 1884 | .. | 70 | 9 | 128 |
| 1885 | .. | 69 | 3 | 43 |
| 1886 | .. | 66 | 6 | 96 |
| 1887 | .. | 64 | 8 | 125 |
| | Mean | 68 | 6·4 | 94 |

The eight *infantile deaths* in 1887 included one from convulsions, two from bronchitis, and two from debility; one death was registered as due to teething, one infant was born prematurely, and one infant was accidentally suffocated.

### ZYMOTIC DISEASE.

There were only two deaths in this class of diseases against 1, 4, 1, and 4 in the four preceding years. These two deaths were due to scarlatina. The rate of mortality from these diseases was 0·7 per 1000 persons living against a rate of 0·3, 1·4, 0·3, and 1·4 in the four preceding years. In the past five years there have been altogether 12 deaths in this class of disorders, or a mean annual death-rate of 0·8 per 1000.

During the last quarter scarlet fever was very prevalent in this district, and during the past quarter many deaths from this disease have occurred. One of the first cases seems to have occurred as far back as last August when a young girl was attacked in a cottage near King Street. Of the three inmates she was the only one ill, and in due time she recovered. This girl had cousins living at Warningcamp and at South Marshes and in eachof these cottages the fever appeared in October last. At South Marshes the first case occured on October 5th, when a child, 3½ years old, fell ill, and on Oct. 19th there was another child, 5 years old, who was attacked. These children had not seen their cousin, but there may have been some communication between other members of the family, though this is denied. Next door to this cottage in South Marshes, a man lived with his wife and three young children, two of whom fell ill on Nov. 9th, and Nov. 12th respectively, and they no doubt caught the disease from their neighbours At Dalton Place, a few yards from the above cottages, a man lived with is wife and three young children, and of these, one fell ill on Oct. 31st and another on Nov. 9th. There are several more houses in the "brooks" but there were no more cases in this area. All the children recovered, attendance at school was stopped and the cottages were fumigated.

About the same time another family was attacked at a distance of mile and a half from South Marshes, and there seems to have been no connection whatever between the two sets of cases. On Nov. 5th scarlet fever appeared at Park Farm, where Alfred P——— lives with his wife and seven children. The first case here was that of Agnes P———, ten years of age, who attended the Roman Catholic School for girls in Arundel. Then five other children fell ill one after the other, but they all recovered. This is a well-built, clean house and free from sanitary defects.

In Park Place, Walter C——— lived with his wife and three young children; May 6 years old, was attacked about the middle of September, Alice, 4 years old, fell ill on October 8th, and Ellen, 2 years old, was attacked on October 1st; this infant died on October 2nd and this was the first death in the district.

In a narrow court off King Street there are three small cottages occupied by P——, H——, and T——. In H——'s house, one infant 2 years old, fell ill at the end of October and it died on December 3rd, seven other children in the house escaped. In T——'s house, two young children, 4 years and 6 years, had a mild attack, while five other children in the cottage escaped. In P——'s house there were no cases.

In Tarrant Street one child was ill on September 22nd, and recovered, while three others escaped. In these, as in the previous cases the children were kept from school until recovery had taken place and the houses were fumigated.

Up to the middle of December, scarlet fever had appeared in nine houses at least. Twenty adults and 36 children dwelt in these nine houses; of the 20 adults, one had the fever, and 19 escaped; of the 36 children, 19 had the fever, of whom two died, and 17 children escaped altogether. The two deaths were those of infants, two years old.

On December 9th, the attendance at the schools was not much affected by the illness in the town. At the R.C. School for boys, about four-fifths were present out of 80 boys; at the school for girls and infants, about 120 out of 140 were present. At the National School about 20 children were absent out of an average attendance of 350.

During the autumn of 1887 scarlet fever was extremely prevalent not only in London, but in many parts of West Sussex, and the sources of infection were probably numerous.

Some have thought that in consequence of several London children being sent down for change of air to Arundel in the course of last summer, their visit caused the disease to be introduced into the town, but there is no very clear evidence of this having been the case. Nearly all the children seem to have left very early in August, and although the fever did appear in a few houses where they had lodged, yet as a period of nearly two months had elapsed between the date of their leaving and the appearance of the fever, it is not probable that the infection could have lasted so long without manifesting itself.

Thus in South Marshes, Mrs. S—— lodged three London children who left on August 8th and the scarlet fever did not appear in her house until October 31st soon after her heighbour's (Mrs. R——) children had failed. Mrs. R—— took in no children, and the first case in the house occurred on October 5th, apparently caused by her cousin's previous illness.

Some of these children had lodged in C——'s house in Park Place, and illness occurred soon afterwards when C—— came to live here, but the late occupier had left the town and the dates could not be verified.

*It was rumoured that a family came down to stay at the Castle, and that their children had had scarlet fever before they came down. It seems most unlikely that under this condition any family would travel until all chance of infection had ceased, and no doubt there had been several mild cases in the town before the arrival of this family. The washing of the clothes, &c., was done at Park Farm, where the fever appeared on November 5th, but the first case here was that of a child who attended school in Arundel, and she may have caught it from some other child in the town.

It is therefore, most probable that owing to the great prevalence of fever last autumn in London and West Sussex that the disease was imported, in more ways than one, and that when once imported, it has spread in the usual way by personal contact and often by school attendance.

The following table gives a summary of the death-rate from all causes, and from various causes during the past five years :—

| Per 100,000 Persons living. | 1883-87. | |
|---|---|---|
| All ages, both sexes. | | |
| General Death-rate .. | 1752 | |
| Zymotic „ .. | 87 | |
| Phthisis „ .. | 291 | 567 |
| Lung Dis. „ .. | 276 | |
| Heart „ .. | 211 | |
| 15 to 55 years. | | |
| Phthisis Death-rate .. | 463 | mean |
| | 409 | female |
| Lung Disease „ | 112 | mean |
| | 109 | female |
| Under 1 year .. .. | 9552 | |
| Under 5 years .. .. | 3609 | |

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* This has since been denied.

*Inquests* were held in five cases:—Male, 64 years, found drowned; male, 53 years, suicide by cutting throat; female, 39 years, natural causes, syncope; female, 4 years, accidental fall; male, 1 day, accidentally suffocated in bed.

There were no deaths returned as "not certified" during the year.

There was one death of an illegitimate child:—Male, 7 days, debility.

There were no cases of overcrowding dealt with during the year.

There are eight bakehouses, and these are all very fairly kept; more regularity should be shown in limewashing them in the spring and autumn.

There are three common lodging houses, which are kept in a cleanly condition.

There are five slaughter houses, which are well kept, and which are limewashed and cleansed at intervals.

No case arose during the year in which it was necessary to condemn meat or any other article of food which had been exposed for sale.

No proceedings were taken before the magistrates during the year.

## ARUNDEL URBAN SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the 5 years, 1883-87.

| Year. | At all ages. | Under 1 year. | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1883 ..................... | 45 | 6 | 8 | — | 3 | 10 | 18 |
| 1884 ..................... | 40 | 9 | 5 | 3 | 2 | 10 | 11 |
| 1885 ..................... | 37 | 3 | 4 | 1 | 5 | 9 | 15 |
| 1886 ..................... | 42 | 6 | 3 | 3 | 4 | 14 | 12 |
| 1887 ..................... | 77 | 8 | 7 | 3 | 3 | 28 | 28 |
| Total..................... | 241 | 32 | 27 | 10 | 17 | 71 | 84 |
| In 1,000 Deaths ...... | 1000 | 133 | 112 | 41 | 70 | 295 | 342 |

TABLE 2.—Showing the Deaths and Death-rate in each of the 5 years 1883-87 from Zymotic Diseases.

| YEAR. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whooping-cough. | Con. Fevers. | | | Diarrhoea and Dysentery. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | TOTAL. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| 1883 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.3 |
| 1884 | ... | ... | ... | 1 | 1 | ... | .. | ... | 2 | ... | ... | ... | ... | 4 | 1·4 |
| 1885 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | 0·3 |
| 1886 | ... | ... | ... | 2 | ... | ... | .. | ... | 1 | 1 | ... | .. | ... | 4 | 1·4 |
| 1887 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 2 | 0·7 |
| Tl. | — | 1 | 2 | 3 | 1 | — | — | — | 4 | 1 | — | — | — | 12 | 0·8 |

## ARUNDEL URBAN SANITARY DISTRICT.

**Table 3.**—Showing the Deaths and Death-rate from all causes and from various causes in the 5 years 1883-87.

| YEAR. | Population in middle of the period. | Deaths during the 5 years 1883-87, from | | | | | Annual Death-rate per 100,000 living, from | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| In 1883 | 2750 | 45 | 1 | 6 | 8 | 2 | 1636 | 36 | 218 | 291 | 72 |
| In 1884 | 2750 | 40 | 4 | 8 | 7 | 5 | 1454 | 145 | 291 | 254 | 182 |
| In 1885 | 2750 | 37 | 1 | 8 | 5 | 6 | 1345 | 36 | 291 | 182 | 218 |
| In 1886 | 2750 | 42 | 4 | 5 | 9 | 5 | 1527 | 145 | 182 | 327 | 182 |
| In 1887 | 2750 | 77 | 2 | 13 | 9 | 11 | 2800 | 72 | 472 | 327 | 400 |
| Total | | 241 | 12 | 40 | 38 | 29 | 1752 | 87 | 291 | 276 | 211 |

TABLE A.—Showing the Deaths during the year 1887, in the Ur
Localities, and showing also the Population of

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | Population at all ages. | | Registered Births. | Mortality from all Causes at Subjoined ages. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Census 1881 | Estimated to middle of 1887 | | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Arundel Urban Sanitary District. | 2748 | 2750 | 64 | 70 | 8 | 7 | 3 | 3 | 27 | 22 | Under 5 |
| | | | | | | | | | | | 5 upwds |
| | | | | | | | | | | | Under 5 |
| | | | | | | | | | | | 5 upwds |
| | | | | | | | | | | | Under 5 |
| | | | | | | | | | | | 5 upwds |
| | | | | | | | | | | | Under 5 |
| | | | | | | | | | | | 5 upwds |
| | | | | | | | | | | | Under 5 |
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| | | | | | | | | | | | 5 upwds |
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| | | | | | | | | | | | 5 upwds |
| | | | | | | | | | | | Under 5 |
| | | | | | | | | | | | 5 upwds |
| | | | | | | | | | | | Under 5 |
| | | | | | | | | | | | 5upwds |
| TOTALS ................ | 2748 | 2750 | 64 | 70 | 8 | 7 | 3 | 3 | 27 | 22 | Under 5 |
| | | | | | | | | | | | 5 upwds |
| Deaths occurring outside the district among persons belonging thereto..... ................... | | | | 7 | | | | | 1 | 6 | Under 5 |
| | | | | | | | | | | | 5 upwds |
| Deaths occurring within the Distrct among persons not belonging thereto... . ......... ..... | | | | | | | | | | | Under 5 |
| | | | | | | | | | | | 5 upwds |

itary District of ARUNDEL classified according to Disease, Ages
alities, and the Births therein during the year.

ORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| | | | | Cont Fevers | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Typhus. | Enteric or Typhoid | Other or Doubtful | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| 2 | | | | | | | | | | | | | | | 3 | | 2 | 8 |
| | | | | | | | | | | | | | | 12 | 4 | 10 | 2 | 27 |
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| 2 | | | | | | | | | | | | | | | 3 | | 2 | 8 |
| | | | | | | | | | | | | | | 12 | 4 | 10 | 2 | 27 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1 | 2 | 1 | | 3 |
| | | | | | | | | | | | | | | | | | | |

**Table B.**—Showing the New Cases of Sickness coming to the knowledg
District of ARUNDEL classi

| Names of Localities.<br>1 | New Cases of Sickness in Persons Belong<br>12 | Smallpox<br>13 | Measles<br>14 | Scarlatina<br>15 | Diphtheria<br>16 | Croup (not spasmodic)<br>17 | Whooping Cough<br>18 |
|---|---|---|---|---|---|---|---|
| Arundel Urban Sanitary District. | Under 5 | | 1 | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
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| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Totals | Under 5 | | 1 | | | | |
| | 5 upwds. | | | | | | |

Sources of Information : In Workhouse and Workh

Medical Officer of Health during the year 1887, in the Rural Sanitary
rding to Localities and Diseases.

| HE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| rs. | | | | | | | | |
| Other or Doubtful 21 | Diarrhœa and Dysentery 22 | Cholera 23 | Rheumatic Fever 24 | Erysipelas 25 | Pyæmia 26 | Puerperal Fever 27 | Ague 28 | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. |
| | 2 | | | 1 | | | | |
| | 3 | | | | | | 1 | |
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| | 3 | | | | | | 1 | |

nary. 5. Among Out-door Paupers, 110.

# GENERAL REPORT

ON THE

# HEALTH OF THE COMBINED SANITARY DISTRICT OF WEST SUSSEX.

The combined Sanitary District includes at the present time the urban sanitary districts of Worthing, West Worthing, Littlehampton and Arundel, and the rural sanitary districts of Steyning, Horsham, Petworth, Thakeham, East Preston, Midhurst and Westbourne.

This large area covers 335,492 square acres, or about 524 square miles. Upon this area there were in April, 1881, 19,083 inhabited houses with an enumerated population, including Arundel, of 97,348, or 5·1 persons to each house.

In the seven rural districts there are about 5·02 persons to each house, while in the four urban districts the number rises to 5·47.

During the past ten years there have been 28,070 births and 14,381 deaths, so that the natural increase of population by excess of births over deaths was, therefore, 13,689, the births being nearly twice as numerous as the deaths. The census was taken April, 1881, and by the middle of the year the population was estimated to have risen to 97,608, including the borough of Arundel, which, however, did not join the combination until 1882.

In the middle of 1887 the population was estimated at 105,520 or an increase of 7,912 in six years. Although in the more rural districts the population has been nearly stationary, yet there has been a rapid increase in the populous places along the sea-coast, and more especially at Worthing and West Worthing.

In comparing the figures in the following report it must be remembered that the facts for Arundel with its population of 2,750 are only given for the years 1883-87, and for Westbourne since 1880.

### BIRTHS.

During the year 1887, the births of 2767 children were registered, and of these 1400 were male and 1367 were female.

The following table shows the births and birth-rate during the past ten years :—

| | | Births. | | | Rate |
|---|---|---|---|---|---|
| Year. | Population. | Male. | Female. | Total. | Per 1000. |
| 1878 | 83627 | 1328 | 1253 | 2581 | 30·8 |
| 1879 | 84648 | 1379 | 1255 | 2634 | 31·1 |
| 1880 | 86244 | 1277 | 1337 | 2614 | 30·3 |
| 1881 | 94860 | 1463 | 1405 | 2868 | 30·2 |
| 1882 | 96220 | 1592 | 1381 | 2973 | 30·9 |
| 1883 | 100430 | 1460 | 1426 | 2886 | 28·7 |
| 1884 | 102500 | 1578 | 1455 | 3033 | 29·5 |
| 1885 | 103930 | 1456 | 1340 | 2796 | 26·9 |
| 1886 | 104760 | 1495 | 1423 | 2918 | 27·8 |
| 1887 | 105520 | 1400 | 1367 | 2767 | 26·2 |
| | Total | 14428 | 13642 | 28070 | 29·2 |

The *birth-rate* in 1887 was lower than that of any previous year in the above series.

Had the same rate prevailed in 1887 that was met with in 1878 (=30·8) there would have been 483 more births. This loss must be taken into account when the diminution in the death-rate is examined. The same fact may be noticed all over the country.

The birth-rate in 1887 throughout England and Wales was equal to 31·4 per 1000 persons estimated to be living in the middle of the year; it was lower than in any previous year since 1838, when birth registration was undoubtedly defective, and it was 2·6 below the mean annual rate in the ten years 1877-86.

In each quarter of the past year the births were thus distributed:—

| | Male. | Female. | Total. | Per cent. |
|---|---|---|---|---|
| 1st Quarter .. | 337 | 322 | 659 .. | 23·8 |
| 2nd " .. | 349 | 343 | 692 .. | 25·0 |
| 3rd " .. | 369 | 336 | 705 .. | 25·5 |
| 4th " .. | 345 | 366 | 711 .. | 25·7 |
| Total | 1400 | 1367 | 2767 | 100·0 |

During the past ten years, with the exception of 1880, there have been born in each year more boys than girls. Out of the 40 quarters during this period, there were eight quarters in which more females than males were born, viz., once in each of the years, 1878 and 1887, and twice in each of the years, 1879, 1880, and 1881. In 32 quarters the male births were in excess.

Births in each quarter, 1878-87.

| | | Male. | Female. | Total. | Per cent. |
|---|---|---|---|---|---|
| 1st Quarter | .. | 3712 | 3581 | 7293 | 26·0 |
| 2nd " | .. | 3640 | 3378 | 7018 | 25·0 |
| 3rd " | .. | 3601 | 3343 | 6944 | 24·7 |
| 4th " | .. | 3475 | 3340 | 6815 | 24·3 |
| Total | .. | 14428 | 13642 | 28070 | 100·0 |

During the whole period of ten years there were 14428 male and 13642 female children born, or an excess of 786 boys, giving a proportion of nearly 105·8 males to every 100 females born. This proportion is higher than that which prevailed throughout England during the decade 1875-84, when it was 103·8 to 100. In the whole of Sussex during the same period the proportion was 104·4 to 100.

The birth-rate per 1000 persons living in each district on the average of the past ten years is here contrasted :—

| District. | Birth-rate. | District. | Death-rate. |
|---|---|---|---|
| Steyning | 30·9 | Westbourne (7 years) | 29·6 |
| Horsham | 30·6 | Worthing | 27·2 |
| Petworth | 29·0 | Littlehampton | 26·2 |
| Thakeham | 30·0 | West Worthing | 13·5 |
| East Preston | 29·9 | Arundel (6 years) | 25·4 |
| Midhurst | 28·9 | | |

The difference in the rates is to be accounted for by the greater proportion of married women in some districts than in others who are living at the child-bearing ages.

During the year 1887 the deaths of 1535 persons were registered, and of these 802 were male and 733 were female.

DEATHS.

| District. | Population. | Deaths. | Death-rate. |
|---|---|---|---|
| Steyning | 18400 | 252 | 13·6 |
| Horsham | 16700 | 209 | 12·5 |
| Petworth | 9550 | 131 | 13·7 |
| Thakeham | 8250 | 123 | 14·9 |
| East Preston | 8740 | 114 | 13·0 |
| Midhurst | 14700 | 219 | 14·9 |
| Westbourne | 7000 | 108 | 14·2 |
| Worthing | 13350 | 231<br>206* | 17·3<br>*15·4 |
| Littlehampton | 4180 | 59<br>51* | 14·1<br>*12·2 |
| West Worthing | 1300 | 12 | 9·2 |
| Arundel | 2750 | 77 | 28·0 |
| Total | 105,520 | 1535<br>*1502 | 14·5<br>*14·2 |

*Excluding visitors.

There were 1537 deaths actually registered in the whole district, but to this number should be added the deaths of 36 persons occurring outside the district among persons belonging thereto; from this total of 1573 there should be deducted the deaths of 71 persons occurring within the district among persons not belonging thereto, leaving the total number at 1502. Of these 71 persons, 33 were visitors at Worthing and Littlehampton, while 38 were persons who died in Workhouses, and who came from places not included in the combination. The 33 deaths among visitors, added to the above number of 1502, make a total of 1535 deaths, or 183 fewer deaths than in the previous year.

The death-rate was much lower than in the previous year when measles, whooping-cough, and lung diseases were very prevalent, and they caused a very high mortality among young children. Nearly all the improvement in 1887 over 1886 was in children under five years of age.

During the ten years 1876-85, out of every 1000 deaths 277 were amongst children under five of age, but in 1886 the proportion rose to 326 per 1000 deaths, while in 1887 it sank to 225 per 1000. Table IV. shows clearly the rise in the death-rate in each sex at various periods of life.

The deaths and death-rate in each of the past ten years are here shown :—

| Year. | Population. | Deaths, Male. | Deaths, Female. | Total. | Rate per 1000. |
|---|---|---|---|---|---|
| 1878 | 83627 | 690 | 664 | 1354 | 16·1 |
| 1879 | 84648 | 695 | 597 | 1292 | 15·2 |
| 1880 | 86244 | 689 | 598 | 1287 | 14·9 |
| 1881 | 94860 | 720 | 603 | 1323 | 13·9 |
| 1882 | 96220 | 705 | 671 | 1376 | 14·3 |
| 1883 | 100430 | 782 | 705 | 1487 | 14·8 |
| 1884 | 102500 | 756 | 731 | 1487 | 14·5 |
| 1885 | 103930 | 816 | 706 | 1522 | 14·6 |
| 1886 | 104760 | 903 | 815 | 1718 | 16·4 |
| 1887 | 105520 | 802 | 733 | 1535 | 14·5 |
| Total |  | 7558 | 6823 | 14381 | 14·9 |

The death-rate in England and Wales in 1887 was equal to 19·3 per 1000 persons living; the rate, however, being much higher in large towns than in smaller places.

|  | Death-rate in 1887. | Mean, 1881-86. |
|---|---|---|
| Chief Towns | 19·7 | 20·3 |
| Small Towns and County Parishes | 17·2 | 17·6 |
| England and Wales | 18·8 | 19·3 |

The following summary shows the changes in the death-rate in various districts during the last eleven years.

| | West Sussex. | Chief Towns. | Rural Districts. | England. |
|---|---|---|---|---|
| 1875 | 17·0 | 24·2 | 20·7 | 22·7 |
| 1876-80 | 15·4 | 22·4 | 21·2 | 20·8 |
| 1881 | 13·9 | 20·3 | 16·8 | 18·9 |
| 1882 | 14·3 | 21·1 | 17·2 | 19·6 |
| 1883 | 14·8 | 20·8 | 17·7 | 19·5 |
| 1884 | 14·5 | 21·0 | 17·4 | 19·5 |
| 1885 | 14·6 | 20·0 | 17·5 | 19·0 |
| 1886 | 16·4 | 20·3 | 17·8 | 19·3 |
| 1887 | 14·5 | 19·7 | 17·2 | 18·8 |

In each quarter of the past year the deaths were thus distributed :—

| | Male. | Female. | Total. | Per cent. |
|---|---|---|---|---|
| 1st Quarter | 219 | 201 | 420 | 27·4 |
| 2nd ,, | 211 | 178 | 389 | 25·3 |
| 3rd ,, | 172 | 166 | 338 | 22·0 |
| 4th ,, | 200 | 188 | 388 | 25·3 |
| Total | 802 | 733 | 1535 | 100·0 |

In each quarter of the past ten years the deaths were as follows :

| Year. | 1st Qr. | 2nd Qr. | 3rd Qr. | 4th Qr. | Total. |
|---|---|---|---|---|---|
| 1878 | 366 | 322 | 329 | 337 | 1354 |
| 1879 | 398 | 327 | 266 | 301 | 1292 |
| 1880 | 364 | 333 | 314 | 276 | 1287 |
| 1881 | 369 | 354 | 307 | 293 | 1323 |
| 1882 | 381 | 319 | 329 | 347 | 1376 |
| 1883 | 399 | 424 | 322 | 342 | 1487 |
| 1884 | 381 | 333 | 383 | 390 | 1487 |
| 1885 | 448 | 360 | 345 | 362 | 1522 |
| 1886 | 544 | 429 | 373 | 372 | 1718 |
| 1887 | 420 | 389 | 338 | 388 | 1535 |
| Total ... | 4070 | 3590 | 3306 | 3415 | 14381 |
| Per cent ... | 28·3 | 25·0 | 23·0 | 23·7 | 100·0 |

The deaths on the average during the last decade were most numerous in the first, and least frequent in the third quarter of the year.

The deaths at different groups of ages in each quarter during the past year were as follows:—

| | Under 1 Year. | 1-5. | 5-15. | 15-25. | 25-60. | 60 & over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter | 78 | 34 | 35 | 23 | 89 | 161 | 420 |
| 2nd ,, | 51 | 26 | 9 | 26 | 102 | 175 | 389 |
| 3rd ,, | 61 | 26 | 17 | 23 | 82 | 129 | 338 |
| 4th ,, | 44 | 26 | 19 | 25 | 95 | 179 | 388 |
| Total .. | 234 | 112 | 80 | 97 | 368 | 644 | 1535 |
| Per 1000 | 152 | 73 | 52 | 63 | 240 | 420 | 1000 |

When the figures for the past nine years are compared it will be seen that in infant life the first and third quarters are the most unfavourable; that in old age, the first quarter is most fatal while the third quarter shows the least mortality; and that from childhood up to sixty years of age the deaths are pretty uniformly distributed throughout the year.

| 1879-87. | Under 1 year. | 1-5. | 5-15. | 15-25. | 25-60. | 60& over. | Total. |
|---|---|---|---|---|---|---|---|
| 1st Quarter | 693 | 413 | 187 | 168 | 755 | 1488 | 3704 |
| 2nd ,, | 540 | 305 | 178 | 174 | 794 | 1277 | 3268 |
| 3rd ,, | 628 | 275 | 140 | 161 | 722 | 1051 | 2977 |
| 4th ,, | 468 | 281 | 163 | 168 | 742 | 1256 | 3078 |
| Total ... | 2329 | 1274 | 668 | 671 | 3013 | 5072 | 13027 |
| Per 10000 | 1788 | 978 | 513 | 515 | 2313 | 3893 | 10000 |

This table should be compared with Table X where the mean temperature of each month is shown, and also the number of deaths in each month.

The influence of *season* may be better seen by dividing the year into three equal periods according to the temperature, and the following figures show the number of deaths in the past ten years which occurred during each such period.

| | Deaths. | Per cent. |
|---|---|---|
| COLD. | | |
| December to March ....36 deg.—41 deg. | 5324 | 37·0 |
| MODERATE. | | |
| April, May, Oct., Nov...41 deg.—57 deg. | 4658 | 32,4 |
| HOT. | | |
| June to September ....57 deg.—63 deg. | 4399 | 30 6 |
| Total .. .. .. | 14381 | 100·0 |

The following table shows the number of deaths in each year at different groups of ages :—

| Year. | All Ages. | Under 1 year. | 1-5. | 5-15. | 15-25 | 25-60. | 60 and over. |
|---|---|---|---|---|---|---|---|
| 1878 | 1354 | 261 | 127 | 65 | 60 | 310 | 531 |
| 1879 | 1292 | 231 | 98 | 57 | 75 | 280 | 551 |
| 1880 | 1287 | 267 | 134 | 76 | 68 | 270 | 472 |
| 1881 | 1323 | 239 | 99 | 60 | 62 | 320 | 543 |
| 1882 | 1376 | 269 | 154 | 81 | 66 | 312 | 494 |
| 1883 | 1487 | 255 | 142 | 65 | 78 | 385 | 562 |
| 1884 | 1487 | 262 | 137 | 95 | 72 | 368 | 553 |
| 1885 | 1522 | 244 | 166 | 71 | 84 | 337 | 620 |
| 1886 | 1718 | 328 | 232 | 83 | 69 | 373 | 633 |
| 1887 | 1535 | 234 | 112 | 80 | 97 | 368 | 644 |
| Total ... | 14381 | 2590 | 1401 | 733 | 731 | 3323 | 5603 |
| Per 100000 ... | | 1801 | 974 | 510 | 508 | 2311 | 3896 |

These figures should be contrasted with Table IV. which shows the death-rate in twelve groups of ages, calculated for each sex on the estimated population in each group; similar rates are given for the whole of England and Wales in the healthy year 1881, whereby it will be seen how much lower the mortality is in rural districts.

For males the rates are in nearly all cases higher than for females.

The mortality which is at the rate of 25 per 1000 for females under five years of age, sinks as low as 2·4 per 1000 for females between ten and fifteen years of age; it then rises gradually up to 10 per 1000 for females between forty-five and fifty-five years of age; the rate is nearly doubled in the next decade, and then there is a rapid increase up to the end of life.

Similar differences may be noted in the male death-rates.

### INFANT MORTALITY.

During the year 1887 there were 234 deaths of infants under one year of age out of a total of 1535 deaths; of these 142 were male and 92 were female.

There were 2767 births, so that the infant mortality, as measured by the number of deaths under one year of age to every 1000 children born, was 84 against a rate of 101, 87, 102, 83, 90, 88, 86, 87 and 112 in the nine preceeding years. The mean rate for the whole of this period amounts to 92 deaths to every 1000 children born. Throughout England and Wales the rate of infant mortality in 1887 was equal to 145 per 1000, against 137, 147, 138 and 149 in the four preceeding years. In large towns the infantile death-rate is very much higher.

In each district the rate of infant mortality on the average of the past ten years is as follows:—

| | | | |
|---|---|---|---|
| Steyning | 104 | Midhurst | 89 |
| Horsham | 88 | Westbourne (7 years) | 92 |
| Petworth | 80 | Worthing | 107 |
| Thakeham | 74 | Littlehampton | 93 |
| East Preston | 82 | West Worthing | 90 |
| Arundel (5 years) | 92 | | |

Of the above 234 infantile deaths, one was from scarlatina, two were from diphtheria, one was from erysipelas and twenty-four were from diarrhœa. Two infants died of tabes mesenterica, three from hydrocephalus, four from tuberculosis, six from meningitis, one from brain disease, two from spinal disease, thirty-two from lung diseases, and thirty-three from convulsions. Sixty-seven infants died from debility or atrophy, forty-one were born prematurely, and there were three accidental deaths. Seven infants died from some form of malformation, and five died from other causes.

### ZYMOTIC DISORDERS.

Out of 1535 deaths from all causes in 1887, 101 were due to this class of disorders, or 0·9 per 1000 persons living. This rate is lower than any recorded since the wet year 1879, when the rate was the same, and it is much lower than that recorded in 1886 when measles and whooping-cough were very fatal.

Table VI, shows the prevalence of each disease during the past ten years, whereby it will be seen that whooping-cough, diarrhœa, and diphtheria head the list, followed by measles, enteric fever, and scarlet fever. This order is very different from that which prevails in the whole of England and Wales, where scarlet fever and measles occupy a much higher, and diphtheria a much lower position.

The mean zymotic death-rate for the ten years 1878-87 in West Sussex was 1·4 per 1000 living. In comparing this rate with similar figures given in the Registrar-General's reports, it should be noted that the latter include the principal zymotic diseases, while my tables, in addition, give the deaths from rheumatic fever, erysipelas, pyæmia and puerperal fever. Deducting the deaths from these four diseases the zymotic death-rate in West Sussex is reduced to 1·27 per 1000 persons living. The mean annual death-rate in England and Wales from the principal zymotic diseases, which had been 3·96, 4·15 and 3·40 per 1000 respectively in the three decennial periods 1851-60, 1861-70, and 1871-80, did not exceed 2·42 in the first seven years of the current decennium 1881-90. The rate in this combined district is, therefore, equal to about one-half of that which is met with in England and Wales on the average of the past ten years.

There was no case of small-pox during the year, nor was there any outbreak of an epidemic disorder which calls for special notice.

Scarlatina caused very few deaths, but in a mild form it was very prevalent during the year, and especially so in the Thakeham and Arundel districts.

Tables VII.—IX. give some interesting particulars with regard to the influence of sex, age and season on zymotic mortality.

## RAINFALL.

The first five years of the past decade were much wetter than the last five years. The years 1877-80 were very wet periods, since which time much less rain has fallen.

In 1878-82, the average rainfall at Worthing was 31·42in. per year, while in 1883-87, the average rainfall was 27·06 inches, or a difference of 4·36 inches per year in the two periods.

In Petworth 38·67 inches fell on the average of each year in the former period, while 32·48 inches fell on the average of each year in the last five years, or a difference of 6·19 inches.

The rainfall for the past year at two places in the combined district is here shown :—

| 1886. | WORTHING. (W. J. Harris, Esq.) | | PETWORTH. (Rev. C. Holland). | |
|---|---|---|---|---|
| | Rainfall in inches. | No. of rainy days. | Rainfall in inches. | No. of rainy days. |
| January | 2·58 | 15 | 3·32 | 9 |
| February | 0·81 | 9 | 0·64 | 4 |
| March | 1·05 | 10 | 1·86 | 10 |
| April | 1·34 | 10 | 1·71 | 10 |
| May | 0·88 | 13 | 1·64 | 11 |
| June | 0·78 | 2 | 1·00 | 2 |
| July | 0·73 | 8 | 0·90 | 7 |
| August | 2·25 | 10 | 3·00 | 9 |
| September | 2·73 | 15 | 3·80 | 12 |
| October | 0·93 | 9 | 1·48 | 5 |
| November | 5·00 | 19 | 6·84 | 14 |
| December | 2·22 | 17 | 2·38 | 10 |
| Total | 21·30 | 137 | 28·57 | 103 |

The rainfall at three different places in the combined district is here contrasted for a term of ten years :—

| | Worthing. | | Horsham. | | Petworth. | |
|---|---|---|---|---|---|---|
| Year. | Inches. | Rainy days. | Inches. | Rainy. days. | Inches. | Rainy days. |
| 1878 ... | 29·42 | 165 | -- | — | 32·68 | 128 |
| 1879 ... | 32·13 | 170 | — | — | 43·68 | 135 |
| 1880 ... | 32·91 | 144 | 34·10 | 177 | 46·38 | 118 |
| 1881 ... | 29·97 | 161 | 29·53 | 163 | 34·89 | 115 |
| 1882 ... | 32·70 | 191 | 31·30 | 192 | 35·69 | 145 |
| 1883 .. | 28·10 | 170 | 30·84 | 178 | 35·80 | 142 |
| 1884 ... | 24·75 | 119 | 23·39 | 136 | 26·65 | 115 |
| 1885 ... | 29·28 | 150 | 25·78 | 143 | 33·30 | 124 |
| 1886 ... | 31·89 | 164 | — | — | 38·09 | 147 |
| 1887 ... | 21·30 | 137 | — | — | 28·57 | 103 |
| Mean | 29·24 | 157 | 29·15 | 165 | 35·57 | 127 |

### HOURS OF SUNSHINE.

| | hours. 1879 | hours. 1880 | hours. 1881 | hours. 1882 | hours. 1883 | hours. 1884 | hours. 1885 | hours. 1886 | hour. 1887 |
|---|---|---|---|---|---|---|---|---|---|
| 1st Quarter | 138 | 235 | 176 | 203 | 300 | 196 | 187 | 208 | 243 |
| 2nd ,, | 352 | 524 | 559 | 571 | 578 | 483 | 584 | 606 | 593 |
| 3rd ,, | 355 | 487 | 526 | 509 | 465 | 525 | 542 | 523 | 632 |
| 4th ,, | 138 | 168 | 245 | 215 | 190 | 161 | 177 | 191 | 216 |
| Total | 933 | 1414 | 1506 | 1498 | 1533 | 1365 | 1490 | 1528 | 1684 |

In the next table will be found the accumulated values for heat, rainfall, and bright sunshine during the past four years:—

| | Heat in day degrees. | | Rainfall. | | Bright sunshine. | |
|---|---|---|---|---|---|---|
| | Above 42 deg F. | Below 42 deg F. | No. of rainy days. | Fall in inches. | No. of hours. | per cent. of pos. duration |
| 1884. | | | | | | |
| Jan to March | 330 | 119 | 48 | 6·8 | 196 | 20 |
| Jan to June | 1288 | 185 | 79 | 11·8 | 679 | 28 |
| Jan to Sept | 3041 | 185 | 122 | 17·7 | 1204 | 33 |
| Jan to Dec | 3495 | 310 | 163 | 23·7 | 1365 | 30 |
| 1885. | | | | | | |
| Jan to March | 202 | 345 | 45 | 7·3 | 187 | 21 |
| Jan to June | 1133 | 402 | 88 | 13·2 | 771 | 34 |
| Jan to Sept | 2694 | 405 | 122 | 18·2 | 1313 | 37 |
| Jan to Dec | 3055 | 573 | 171 | 27·2 | 1490 | 34 |
| 1886. | | | | | | |
| Jan. to March | 107 | 555 | 48 | 6·3 | 208 | 20 |
| Jan. to June | 1034 | 590 | 93 | 12·8 | 814 | 32 |
| Jan. to Sept. | 2748 | 590 | 128 | 18·7 | 1337 | 36 |
| Jan. to Dec. | 3348 | 760 | 192 | 32·3 | 1528 | 34 |
| 1887. | | | | | | |
| Jan. to March | 179 | 453 | 34 | 4·2 | 243 | 28 |
| Jan. to June | 1162 | 524 | 65 | 8·1 | 836 | 38 |
| Jan. to Sept. | 2729 | 524 | 100 | 14·0 | 1468 | 41 |
| Jan. to Dec. | 3033 | 836 | 150 | 21·8 | 1684 | 38 |

These figures show that in 1887 there was a large deficiency in effective heat in the South of England, amounting to 218 day-degrees, the cold spring and autumn being more than sufficient to cancel the effect of the warm summer.

There were only 150 rainy days, or 30 less than the average' while the rainfall over the southern counties amounted to 21·8 inches, or 6·8 inches less than the average.

The year 1887 showed more hours of bright sunshine than any previously recorded; the total amount was 38 per cent. of possible duration, or 4 per cent. more than the average.

## TEMPERATURE.

The facts and figures here given are taken from the weekly and monthly records of the Meteorological office so far as they affect the south of England; they may be taken as approximately correct for this district:—

| | 1883 | | | 1884 | | | 1885 | | | 1886 | | | 1887 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Lowest | Mean | Highest | Lowest | Mean | Highest | Lowest | Mean | Highest | Lowest | Mean | Highest | Lowest | Mean |
| | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. |
| Jan ...... | 57 | 27 | 43·8 | 54 | 30 | 43·8 | 51 | 21 | 36·1 | 53 | 11 | 36·9 | 60 | 13 | 37·4 |
| Feb ...... | 55 | 26 | 42·5 | 54 | 25 | 43·0 | 58 | 23 | 43·9 | 50 | 18 | 35·6 | 56 | 20 | 39·3 |
| March ... | 66 | 14 | 38·4 | 69 | 25 | 42·6 | 62 | 23 | 41·8 | 65 | 18 | 38·0 | 62 | 15 | 39·2 |
| April ... | 68 | 26 | 47·3 | 68 | 23 | 45·0 | 73 | 23 | 46·6 | 71 | 28 | 46·4 | 70 | 22 | 44·1 |
| May ...... | 79 | 29 | 51·8 | 83 | 31 | 50·5 | 66 | 29 | 48·0 | 76 | 26 | 51·6 | 70 | 31 | 50·3 |
| June...... | 84 | 37 | 58·2 | 83 | 34 | 56·7 | 84 | 36 | 57·7 | 79 | 37 | 55·6 | 89 | 40 | 59·6 |
| July...... | 75 | 40 | 59·0 | 86 | 39 | 61·5 | 91 | 41 | 61·5 | 89 | 44 | 61·9 | 84 | 40 | 62·9 |
| August | 82 | 42 | 62·0 | 92 | 42 | 65·3 | 83 | 35 | 59·8 | 81 | 43 | 60·6 | 88 | 35 | 61·3 |
| Sept....... | 77 | 36 | 58·0 | 83 | 35 | 59·6 | 76 | 30 | 56·5 | 87 | 34 | 60·1 | 71 | 33 | 54·7 |
| Oct ...... | 65 | 34 | 51·5 | 67 | 30 | 50·1 | 65 | 30 | 48·0 | 80 | 33 | 54·7 | 65 | 20 | 45·3 |
| Nov ....... | 58 | 23 | 44·8 | 62 | 21 | 45·1 | 57 | 26 | 43·1 | 65 | 27 | 47·4 | 56 | 19 | 42·1 |
| Dec ....... | 58 | 25 | 42·0 | 56 | 21 | 42·6 | 59 | 19 | 41·1 | 56 | 17 | 39·5 | 54 | 23 | 40·1 |

The following table is also taken from observations made by Mr. Harris, who has kindly allowed me to make use of them; the facts recorded concern Worthing only :—

| Month. | Means at 9 a.m. |  | Temperature. |  |  |  |  |  |  | Mean amount of Cloud at 9 a.m. | Rain. |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  | Means. |  |  |  | Extremes in Month. |  |  |  |  |  |
|  | Temperature. | Humidity. | Min. | Max. | Range. | Mean. | Min. | Max. | Range. |  | Amount. | No. of rainy days |
|  | deg. | per cent. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | deg. | inches. |  |
| January | 35·6 | 94 | 31·4 | 41·3 | 9·9 | 36·4 | 17·4 | 48·1 | 30·7 | 6·4 | 2·58 | 15 |
| February | 38·7 | 87 | 33·9 | 43·8 | 9·9 | 38·8 | 24·5 | 53·0 | 28·5 | 5·3 | 0·81 | 9 |
| March | 38·3 | 93 | 32·9 | 45·9 | 13·0 | 39·4 | 24·0 | 57·2 | 33·2 | 6·7 | 1·05 | 10 |
| April | 45·1 | 88 | 36·2 | 51·0 | 14·8 | 43·6 | 29 2 | 63·0 | 33·8 | 5·0 | 1·34 | 10 |
| May | 51·3 | 79 | 44·1 | 57·7 | 13·6 | 50·9 | 34·9 | 67·7 | 32·8 | 6·3 | 0·88 | 13 |
| June | 60·2 | 78 | 51·0 | 66·3 | 15·3 | 58·7 | 44·2 | 81·0 | 36·8 | 4·7 | 0·78 | 2 |
| July | 64·3 | 77 | 55·1 | 70·0 | 14·9 | 62·5 | 45·1 | 77·8 | 32·7 | 4·5 | 0·73 | 8 |
| August | 63·8 | 72 | 53·5 | 68·6 | 15·1 | 61·1 | 45·1 | 82·0 | 36·9 | 5·3 | 2·25 | 10 |
| September | 55·8 | 81 | 49.0 | 61·4 | 12·4 | 55·2 | 39·2 | 65·5 | 26.3 | 5·9 | 2·73 | 15 |
| October | 46·3 | 85 | 40·5 | 53·0 | 12·5 | 46·8 | 28·2 | 61·0 | 32·8 | 5·3 | 0·93 | 9 |
| November | 42·4 | 95 | 37·9 | 47·4 | 9·5 | 42·7 | 28·1 | 54·3 | 26·2 | 6·3 | 5·00 | 19 |
| December | 38·3 | 90 | 33·7 | 43·0 | 9·3 | 38·4 | 25·1 | 51·5 | 26·4 | 6·3 | 2·22 | 17 |
| Year 1887 | 48·3 | 85 | 41·6 | 54·1 | 12·5 | 47·9 | 32·1 | 63·5 | 31·4 | 5·7 | 21·30 | 137 |
| „ 1886 | 50·0 | 83 | 44·0 | 55·2 | 11·2 | 49·6 | 23·2 | 78·0 | 54·8 | 5·8 | 31·89 | 164 |
| „ 1885 | 50·0 | 80 | 43·7 | 55·1 | 11·4 | 49·4 | 25·2 | 81·7 | 56·5 | 5·7 | 28·09 | 156 |
| „ 1884 | 52·0 | 81 | 45·6 | 56·8 | 11·2 | 51·2 | 27·0 | 83·3 | 56·3 | 5·8 | 23·51 | 126 |
| „ 1883 | 50·7 | 81 | 43·9 | 55·9 | 12·0 | 49·9 | 23·3 | 75·7 | 52·4 | 5·7 | 26·05 | 174 |

The temperature of the soil at 9 a.m., one foot below the surface of the ground at Worthing, has been taken daily by W. J. Harris, Esq., F. R. Met. Soc., and the results for each month are here given :—

| | Max. | Min. | Mean. | 1884. | 1885. (mean) | 1886. (mean) |
|---|---|---|---|---|---|---|
| January ...... | 41·4 | 35·0 | 37·3 | 37·7 | 38·3 | 37·7 |
| February ...... | 45·6 | 35·4 | 39·2 | 36·6 | 42·7 | 36·6 |
| March ......... | 44·2 | 36·3 | 40·3 | 39·3 | 43·1 | 39·1 |
| April ......... | 48·1 | 42·8 | 45·2 | 48·2 | 48·8 | 48·1 |
| May ........... | 54·5 | 46·2 | 51·1 | 55·6 | 53·6 | 55·1 |
| June........... | 64·2 | 54·0 | 59·4 | 60·2 | 61·4 | 60·4 |
| July ........... | 66·2 | 60·5 | 64·4 | 64·8 | 63 9 | 64·1 |
| August......... | 67·2 | 57·9 | 63·1 | 67·1 | 62.3 | 63·8 |
| September ... | 62·2 | 53·2 | 57·9 | 61·9 | 58·9 | 61·6 |
| October ...... | 54·3 | 42·8 | 49·1 | 52·8 | 50·4 | 54·2 |
| November ... | 48·1 | 39·5 | 44·2 | 46·0 | 45·1 | 47·1 |
| December...... | 44·7 | 35·1 | 40·3 | 42·6 | 40·6 | 39·0 |
| Year... | 53·4 | 44·9 | 49·4 | 52·6 | 50·8 | 50·6 |
| In 1884 ...... | 71·0 | 38·4 | 52·6 | | | |
| In 1885 ...... | 67·2 | 36·1 | 50·8 | | | |
| In 1886 ...... | 67·2 | 34·3 | 50·6 | | | |

## LEGISLATION OF 1887.

The chief acts relating to Sanitary Authorities were the following :—

The Allotments Act, 1887 (50 and 51 Vict. c. 48).

The object of this Act is to afford facilities for the provision of allotments for the labouring classes.

### THE QUARRY (FENCING) ACT, 1887 (50 & 51 VICT. C. 19.), AND THE COAL MINES REGULATION ACT, 1887 (50 & 51 VICT. C. 58).

These Acts came into operation on the 1st of January, 1888. It provides that where any quarry dangerous to the public is in open or unenclosed land, within 50 yards of a highway or place of public resort dedicated to the public, and is not separated therefrom by a secure and sufficient fence, it shall be kept reasonably fenced for the prevention of accidents, and unless so kept shall be deemed to be a nuisance liable to be dealt with summarily in manner provided by the Public Health Act, 1875. In this Act the term "quarry" includes every pit or opening made for the purpose of getting stone, slate, lime, chalk, clay, gravel, or sand, but not any natural opening.

Similar provisions with respect to the fencing of coal mines which have been abandoned, or the working thereof is discontinued, are at present contained in section 41 of the Coal Mines Regulation Act, 1872, which imposes on the owner and every other person interested in the minerals of the mine the duty of causing the top of every shaft and every side entrance from the surface to be and to be kept securely fenced for the prevention of accidents; and the effect of which is that any shaft or side entrance which is not so fenced and is within 50 yards of any highway road, footway, or place of pubiic resort, or is in open or unenclosed land, is to be deemed to be a nuisance within the meaning of section 91 of the Public Health Act, 1875.

### THE MARGARINE ACT, 1887 (50 & 51 VICT. C. 29.).

By this act, which came into force on the 1st of January, 1888, further provision has been made for protecting the public against the sale as butter* of margarine, which is defined by the Act as meaning all substances, whether compounds or otherwise, prepared in imitation of butter, and whether mixed with butter or not. After the Act has come into force, it will not be lawful to sell any such substance except under the name of margarine, and under the conditions set forth in the Act (section 3).

These conditions are that every package, whether open or closed, containing margarine shall be branded or durably marked "Margarine" on the bottom, top, and sides in printed capital letters, not less than three-quarters of an inch square; that if margarine is exposed for sale by retail there shall be attached to every parcel of it so exposed, and in such a manner as to be clearly visible to the purchaser, a label marked "Margarine" in printed capital letters not less than one and a half inches square; and that every person selling margarine by retail, except in a package duly branded and marked in accordance with the above directions, shall in every case deliver the same to the purchaser in or with a paper wrapper on whiah "Margarine" is printed in capital letters not less than a quarter of an inch square (section 6).

All imported margarine, and all margarine, whether imported or manufactured in this country, whenever forwarded by any public conveyance, is required by the Act to be duly consigned as margarine; and any medical officer of health, inspector of nuisances, or police constable authorised under section 13 of the Sale of Food and Drugs Act, 1875, to procure samples for analysis, may, if he has any reason to believe that the provisions oi the Act are infringed in this behalf, examine and take samples from any package, and ascertain, if necessary, by submitting the same to be analysed, whether an offence has been committed against the Act (section 8).

Any officer authorised to take samples under the Sale of Food and Drugs Act may, without going through the form of purchase provided by that Act, but otherwise acting in all respects in accordance with the provisions of that Act as to dealing with samples, take for the purposes of analysis samples of any butter, or substances purporting to be butter, which are exposed for sale, and not marked "Margarine" as provided by the Act, and any such substance not being so marked will be presumed to be exposed for sale as butter (section 10).

Every person dealing in margarine who is found guilty of an offence under the Act will be liable on summary conviction for the first offence to a fine not exceeding £20, for the second offence to a fine not exceding £50, and for the third or any subsequnt offence to a fine not exceeding £100 (section 11).

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* Butter is defined by the Act as meaning the substance usually known as butter, made exclusively from milk or crerm, or both, with or without salt or other preservative, and with or without the addition of colouring matter.

## DAMPNESS OF SOIL IN RELATION TO PHTHISIS, LUNG-DISEASES AND DIPHTHERIA.

The variety of soil in West Sussex led me ~~six~~ years ago to compare the death-rate of phthisis and diphtheria upon those formations, and to see what influence a wet or dry soil had upon the mortality. The present comparison deals with a period of ten years, 1876-85, and the deaths from phthisis are contrasted with those from diphtheria, from lung diseases, and with the deaths at all ages from all causes. The combined district of West Sussex covers an area of 335,492 square acres, or about 524 square miles, with a population at the present time of 105,520. Two of the districts have only joined the combination within the last few years, so that the mortality in them cannot be given for the past decade. Taking away these districts, one urban and one rural, there is a population left estimated at 86,990 in the middle of the period, and dwelling on an area of 305,483 square acres, or 477 square miles. The different soils may be divided into three classes:—

8

1. The pervious soils, which include the upper and lower greensands, the chalk and the lower Tunbridge Wells sands.

2. The retentive soils, which include the Weald clay, the clayey beds of the lower greensand and the gault.

3. There is a long strip of nearly level land between the Southdowns and the sea, where the chalk is covered for a depth of 15 to 50 feet with loam and brick-earth. The surface of this soil rises gently from the sea towards the Downs, so that although in some parts the clays are retentive, yet the slope towards the sea enables surface water to flow away readily, except in some of the low-lying brooklands; these are called moderately pervious.

| | | Death-rate per 1,000,000 living at all ages from | | | |
|---|---|---|---|---|---|
| Nature of Soil. | Population. | Phthisis. | Lung-dis. | Diphtheria. | All causes. |
| Pervious ... | 33,820 | 1514 | 2131 | 127 | 14,852 |
| Moderately Pervious ... | 29,640 | 1467 | 1892 | 216 | 14,463 |
| Retentive ......... | 23,530 | 1542 | 2583 | 454 | 14,942 |
| West Sussex...... | 86,990 | 1506 | 2172 | 246 | 14,741 |

These figures show that the mortality from diphtheria and lung-diseases varies considerably, being much higher on retentive, than on porous soils; the mortality from phthisis and from all causes is very nearly the same on each variety of soil.

The death-rate from phthisis has varied very much in recent years, and the following figures show how great has been the reduction in the mortality since Dr. Buchanan's inquiry into the subject for the decade, 1851-60. The districts in 1876-85 do not cover precisely the same area as they did in 1851-60; the Steyning, Horsham and East Preston rural sanitary districts in the last period do not correspond with the unions of the same name in the first period. The Petworth, Thakeham and Midhurst districts, however, are the same as the unions of the same name. In each case the main fact discernible is the great reduction in the mortality from consumption. A similar decrease may be noticed throughout England, for the Annual Report of the Registrar-General show a gradual and steady decline from a mean rate of 2811 per million in 1850-54, 2647 per million in 1855-59, 2566 per million in 1860-64 down to 1718 in the year 1886.

| | Death-rate from Phthisis per 100,000 persons living<br>Both sexes, all ages.<br>1851-60. | 1861-70. | 1876-85. |
|---|---|---|---|
| Steyning R.S.D. | 197 | 201 | 161 |
| Horsham R.S.D. | 261 | 212 | 142 |
| Petworth R.S.D. | 283 | 226 | 150 |
| Thakeham R.S.D | 285 | 221 | 150 |
| East Preston R.S.D. | 297 | 259 | 153 |
| Midhurst R.S.D. | 275 | 215 | 158 |

If, instead of taking the results of the deaths at all ages and both sexes, those deaths only are taken which occurred between the ages of 15-55, similar results are obtained; the figures here show the female death-rate, and also the mean death-rate from males and females at the ages 15—55. These figures should be compared with those given in Dr. Buchanan's paper in the 10th report of the Medical Officer of the Privy Council.

| | Death-rate per 100,000 living at ages 15-55 from Phthisis. | | | | | |
|---|---|---|---|---|---|---|
| | 1851-60. Mean. | 1861-70. Mean. | 1876-85. Mean. | 1851-60. Female. | 1861-70. Female. | 1876-85. Female. |
| Steyning R.S.D. .... | 295 | 288 | 263 | 304 | 309 | 287 |
| Horsham R.S.D. .... | 440 | 340 | 243 | 518 | 428 | 236 |
| Petworth R.S.D. .... | 462 | 397 | 262 | 509 | 490 | 225 |
| Thakeham R.S.D..... | 454 | 356 | 256 | 560 | 379 | 261 |
| East Preston R.S.D.. | 419 | 417 | 253 | 445 | 393 | 288 |
| Midhurst R.S.D. .... | 455 | 360 | 273 | 539 | 407 | 284 |

The order of the district as regards mortality is quite altered, and in the Petworth, Thakeham and Midhurst districts where the areas have not been changed the reduction is very great.

It cannot be maintained that deaths which used to be registered as phthisis are now included under lung diseases, because although there is an increase under the latter head, it is by no means equal to the decrease under phthisis. The following figures giving the mortality from lung diseases are based on the same plan as those given above for consumption. It will be noticed that the mortality from phthisis chiefly takes place between the ages of 15-55 years, while the mortality from lung diseases is very low from 15-55 years, as these disorders are most fatal in early childhood or in old age.

| | Death-rate from Lung-diseases per 100,000 persons living. Both sexes. All ages. | | |
|---|---|---|---|
| | 1851-60. | 1861-70. | 1876-85. |
| Steyning R.S.D. ............ | 189 | 192 | 198 |
| Horsham R.S.D. ............ | 246 | 326 | 251 |
| Petworth R.S.D. ............ | 211 | 230 | 273 |
| Thakeham R.S.D............ | 189 | 197 | 263 |
| East Preston R.S.D.......... | 166 | 221 | 205 |
| Midhurst R.S.D. ............ | 176 | 194 | 190 |

The following figures show the mean death-rate for males and females, and also the female death-rate from lung diseases at the ages 15-55. As compared with the previous table the rates are very low during the middle period of life.

| | Death-rate per 100,000 living at ages, 15-55 from Lung-diseases. | | | | | |
|---|---|---|---|---|---|---|
| | 1851-60. Mean. | 1861-70. Mean. | 1876-85. Mean. | 1851-60. Female. | 1861-70. Female. | 1876-85. Female. |
| Steyning R.S.D. .... | 68 | 60 | 42 | 50 | 39 | 26 |
| Horsham R.S.D. .... | 55 | 83 | 87 | 57 | 69 | 51 |
| Petworth R.S.D. .... | 50 | 86 | 129 | 44 | 90 | 117 |
| Thakeham R.S.D. .... | 43 | 61 | 62 | 45 | 45 | 52 |
| East Preston R.S.D. .. | 46 | 61 | 82 | 34 | 48 | 78 |
| Midhurst R.S.D. .... | 56 | 57 | 45 | 58 | 43 | 49 |

In connexion with these rates it is worthy of notice that the rainfall in the ten years 1876-85 was much greater than in either of the two previous decades. In this district the total fall in 1851-60 was a little lower than in 1861-70 when 281·54 inches of rain fell, while in 1876-85, the total fall amounted to 304·93 inches.

## Table I.—Showing the Births in 1887 and in 1878-86.

| District | 1st Quarter. | | | 2nd Quarter. | | | 3rd Quarter. | | | 4th Quarter. | | | Year. | | | Per 1000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | TL. | M. | F. | TL. | M. | F. | TL. | M. | F. | TL. | M. | F. | TL. | |
| Steyning Rural...... | 70 | 56 | 126 | 64 | 53 | 117 | 71 | 61 | 132 | 47 | 48 | 95 | 252 | 218 | 470 | 25·5 |
| Horsham ,, ...... | 47 | 44 | 91 | 62 | 68 | 130 | 64 | 48 | 112 | 58 | 61 | 119 | 231 | 221 | 452 | 27·0 |
| Petworth ,, ...... | 30 | 33 | 63 | 22 | 38 | 60 | 38 | 37 | 75 | 29 | 37 | 66 | 119 | 145 | 264 | 27·6 |
| Thakeham ,, ...... | 31 | 32 | 63 | 32 | 36 | 68 | 34 | 26 | 60 | 26 | 28 | 54 | 123 | 122 | 245 | 29·7 |
| East Prest. ,, ...... | 27 | 27 | 54 | 28 | 29 | 57 | 22 | 34 | 56 | 37 | 37 | 74 | 114 | 127 | 241 | 27·5 |
| Midhurst ,, ...... | 35 | 46 | 81 | 45 | 37 | 82 | 52 | 46 | 98 | 38 | 46 | 84 | 170 | 175 | 345 | 23·4 |
| Westbour. ,, ...... | 28 | 27 | 55 | 29 | 22 | 51 | 28 | 20 | 48 | 42 | 29 | 71 | 127 | 98 | 225 | 29·6 |
| Worthing Urban ... | 46 | 36 | 82 | 44 | 32 | 76 | 33 | 34 | 67 | 46 | 56 | 102 | 169 | 158 | 327 | 24·5 |
| Littlehampton ,, ... | 13 | 10 | 23 | 13 | 18 | 31 | 14 | 20 | 34 | 14 | 14 | 28 | 54 | 62 | 116 | 27·7 |
| West Worthing ,, ... | 3 | — | 3 | 1 | — | 1 | 6 | 3 | 9 | 3 | 2 | 5 | 13 | 5 | 18 | 13·8 |
| Arundel ,, | 7 | 11 | 18 | 9 | 10 | 19 | 7 | 7 | 14 | 5 | 8 | 13 | 28 | 36 | 64 | 23·2 |
| Total .............. | 337 | 322 | 659 | 349 | 343 | 692 | 369 | 336 | 705 | 345 | 366 | 711 | 1400 | 1367 | 2767 | 26.2 |
| In 1878.............. | 339 | 320 | 659 | 360 | 300 | 660 | 320 | 319 | 639 | 309 | 314 | 623 | 1328 | 1253 | 2581 | 30·8 |
| ,, 1879.............. | 329 | 332 | 661 | 319 | 320 | 639 | 359 | 277 | 636 | 372 | 326 | 698 | 1379 | 1255 | 2634 | 31·1 |
| ,, 1880.............. | 319 | 363 | 682 | 308 | 352 | 660 | 330 | 328 | 658 | 320 | 294 | 614 | 1277 | 1337 | 2614 | 30·3 |
| ,, 1881.............. | 375 | 347 | 722 | 397 | 338 | 735 | 368 | 381 | 749 | 323 | 339 | 662 | 1463 | 1405 | 2868 | 30·2 |
| ,, 1882.............. | 449 | 392 | 841 | 382 | 321 | 703 | 397 | 331 | 728 | 364 | 337 | 701 | 1592 | 1381 | 2973 | 30·9 |
| ,, 1883.............. | 391 | 381 | 772 | 358 | 353 | 711 | 367 | 359 | 726 | 344 | 333 | 677 | 1460 | 1426 | 2886 | 28·7 |
| ,, 1884.............. | 374 | 371 | 745 | 431 | 358 | 789 | 370 | 356 | 726 | 403 | 370 | 773 | 1578 | 1455 | 3033 | 29·5 |
| ,, 1885.............. | 402 | 367 | 769 | 332 | 323 | 655 | 371 | 314 | 685 | 351 | 336 | 687 | 1456 | 1340 | 2796 | 26·9 |
| ,, 1886.............. | 397 | 386 | 783 | 404 | 370 | 774 | 350 | 342 | 692 | 344 | 325 | 669 | 1495 | 1423 | 2918 | 27·8 |

TABLE II.—Showing the Ages at death in the Ten Years, 1878-87.

| Year. | Population. | Total. | Und 1 | - 2 | - 5 | -10 | -15 | -25 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | 100 & over |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1878-81 | 85,446 | M. 2794 | 587 | 131 | 101 | 72 | 39 | 126 | 73 | 150 | 165 | 241 | 367 | 468 | 247 | 27 | .. |
| | | F. 2462 | 411 | 130 | 96 | 90 | 57 | 139 | 77 | 126 | 138 | 210 | 317 | 399 | 246 | 23 | 3 |
| 1882 .. | 96,220 | M. 705 | 150 | 43 | 41 | 24 | 11 | 35 | 13 | 41 | 46 | 53 | 100 | 92 | 51 | 5 | .. |
| | | F. 671 | 119 | 38 | 32 | 28 | 18 | 31 | 19 | 51 | 40 | 49 | 75 | 101 | 59 | 11 | .. |
| 1883 .. | 100,430 | M. 782 | 140 | 29 | 37 | 24 | 9 | 38 | 22 | 56 | 62 | 79 | 84 | 116 | 79 | 7 | .. |
| | | F. 705 | 115 | 38 | 38 | 22 | 10 | 40 | 19 | 47 | 45 | 55 | 89 | 109 | 66 | 12 | .. |
| 1884 .. | 102,500 | M. 756 | 153 | 42 | 36 | 32 | 21 | 30 | 20 | 41 | 49 | 65 | 73 | 131 | 57 | 6 | .. |
| | | F. 731 | 109 | 31 | 28 | 21 | 21 | 42 | 22 | 52 | 55 | 64 | 85 | 114 | 69 | 18 | .. |
| 885 .. | 103,930 | M. 816 | 132 | 57 | 48 | 22 | 9 | 39 | 19 | 38 | 58 | 62 | 116 | 132 | 72 | 11 | 1 |
| | | F. 706 | 112 | 32 | 29 | 28 | 12 | 45 | 19 | 43 | 44 | 54 | 89 | 110 | 79 | 10 | .. |
| 1886 .. | 104,760 | M. 908 | 181 | 65 | 48 | 28 | 13 | 36 | 19 | 49 | 75 | 67 | 96 | 138 | 81 | 7 | .. |
| | | F. 815 | 147 | 66 | 53 | 27 | 15 | 33 | 20 | 41 | 51 | 51 | 99 | 122 | 83 | 7 | .. |
| 887 .. | 105,520 | M. 802 | 142 | 30 | 25 | 22 | 22 | 46 | 22 | 44 | 47 | 64 | 118 | 137 | 80 | 3 | .. |
| | | F. 733 | 92 | 30 | 27 | 19 | 17 | 51 | 19 | 44 | 50 | 78 | 96 | 130 | 64 | 16 | .. |
| | Total ........ | M. 7558 | 1485 | 397 | 336 | 224 | 124 | 350 | 188 | 419 | 502 | 631 | 954 | 1214 | 667 | 66 | 1 |
| | | F. 6823 | 1105 | 365 | 303 | 235 | 150 | 381 | 195 | 404 | 423 | 561 | 850 | 1085 | 666 | 97 | 3 |
| | Total, both sexes | 14381 | 2590 | 762 | 639 | 459 | 274 | 731 | 383 | 823 | 925 | 1192 | 1804 | 2299 | 1333 | 163 | 4 |
| | Per 10,000 .. | 10000 | 1801 | 530 | 444 | 320 | 190 | 508 | 266 | 572 | 643 | 830 | 1254 | 1600 | 926 | 113 | 3 |

Table III.—Showing the Deaths and Death-rate from Zymotic Diseases in 1887.

| Sanitary District. | Smalll-poa. | Measles. | Scarlatina. | Diphtheria. | Whooping Cough. | Cont. Fevers. | | | Diarrhœa. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Total. | Rate per 1000 persons living. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | |
| Steyning Rural .... | .. | .. | 1 | 2 | .. | 2 | 3 | .. | 16 | .. | 1 | 2 | .. | 27 | 1·4 |
| Horsham ,, .... | .. | .. | 4 | 4 | .. | .. | 2 | 2 | 5 | .. | .. | .. | .. | 17 | 1·0 |
| Petworth ,, .... | .. | .. | 1 | 1 | .. | .. | .. | .. | 2 | .. | .. | .. | .. | 4 | 0·4 |
| Thakeham ,, .... | .. | .. | 1 | 4 | 1 | .. | 4 | .. | 2 | .. | 1 | .. | .. | 13 | 1·5 |
| East Prest. ,, .... | .. | .. | 1 | 2 | .. | .. | 1 | .. | 5 | .. | .. | .. | .. | 9 | 1·0 |
| Midhurst ,, .... | .. | 2 | .. | 1 | 2 | .. | 1 | .. | 1 | 2 | 1 | .. | .. | 10 | 0·6 |
| Westbourne,, .... | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | .. | .. | .. | 3 | 0·4 |
| Worthing Urban .. | .. | .. | 1 | 5 | .. | .. | 1 | .. | 4 | .. | .. | 1 | .. | 12 | 0·9 |
| Littlehampton ,, .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | 3 | 0·7 |
| West Worthing,, .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | 0·7 |
| Arundel ,, .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·7 |
| Total. | — | 3 | 11 | 19 | 4 | 2 | 14 | 2 | 37 | 3 | 3 | 3 | — | 101 | 0·9 |

TABLE IV.—Showing the Deaths and Death-rate from Zymotic Diseases in each of the ten years, 1878-87.

| Year. | Small-pox. | Measles. | Scarlatina. | Diphtheria. | Whoop-cough. | Cont. Fevers. | | | Diarrhœa. | Rheumatic fever. | Erysipelas. | Pyæmia. | Peurperal fever. | Total. | Rate per 1000 persons living. | Population. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Typhus. | Enteric. | Other. | | | | | | | | |
| 1878 ......... | 2 | 9 | 6 | 13 | 40 | 2 | 10 | 1 | 43 | 1 | 3 | 2 | 6 | 138 | 1·6 | 83,627 |
| 1879 ......... | ... | 9 | 2 | 22 | 17 | ... | 9 | 2 | 8 | 4 | 3 | 2 | 1 | 79 | 0·9 | 84,648 |
| 1880 ......... | ... | 23 | 9 | 12 | 55 | ... | 15 | 1 | 49 | 1 | 3 | ... | 3 | 171 | 1·9 | 86,244 |
| 1881 ......... | 1 | 1 | 15 | 25 | 10 | ... | 12 | 1 | 17 | 7 | 7 | 2 | 5 | 103 | 1·0 | 94,860 |
| 1882 ...... .. | ... | 16 | 15 | 35 | 53 | ... | 10 | 3 | 19 | 4 | 7 | 1 | 1 | 164 | 1·7 | 96,220 |
| 1883 ......... | 5 | 21 | 13 | 24 | 13 | 1 | 18 | ... | 23 | 6 | 5 | ... | 2 | 131 | 1·3 | 100.430 |
| 1884 .. ....... | ... | 5 | 22 | 32 | 14 | 2 | 12 | ... | 38 | ... | 11 | 3 | 4 | 143 | 1·3 | 102,500 |
| 1885 ......... | 1 | 12 | 15 | 41 | 24 | 2 | 17 | 4 | 23 | 3 | 10 | ... | ... | 152 | 1·4 | 103,930 |
| 1886 ......... | 3 | 45 | 9 | 23 | 88 | 1 | 20 | ... | 54 | 3 | 4 | 2 | 4 | 256 | 2·4 | 104,750 |
| 1887 ......... | ... | 3 | 11 | 19 | 4 | 2 | 14 | 2 | 37 | 3 | 3 | 3 | ... | 101 | 0·9 | 105,520 |
| Total ......... | 12 | 144 | 117 | 246 | 318 | 10 | 137 | 14 | 311 | 32 | 56 | 15 | 26 | 1438 | 1·4 | |

TABLE V.—Showing the Deaths from Zymotic Diseases in each month in the year 1887.

| | | January. | February. | March. | 1st Quarter | April. | May. | June. | 2nd Quarter. | July. | August. | September. | 3rd Quarter. | October. | November. | December. | 4th Quarter. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Small-pox | | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Measles | | .. | 2 | .. | 2 | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | 3 |
| Scarlattna | | .. | 1 | 1 | 2 | .. | 1 | 2 | 3 | 1 | .. | 1 | 2 | 1 | 1 | 2 | 4 | 11 |
| Diphtheria | | 2 | 1 | 1 | 4 | 2 | 2 | 1 | 5 | .. | 2 | 1 | 3 | 1 | 2 | 4 | 7 | 19 |
| Whooping-cough | | .. | 1 | .. | 1 | .. | .. | 1 | 1 | .. | .. | 1 | 1 | .. | 1 | .. | 1 | 4 |
| Cont. Fevers | Typhus | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | .. | .. | .. | .. | 2 |
| | Enteric | 2 | 2 | 1 | 5 | 1 | .. | .. | 1 | .. | 2 | 1 | 3 | 3 | 1 | 1 | 5 | 14 |
| | Other Forms | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 2 |
| Diarrhœa | | 2 | 1 | 2 | 5 | .. | 2 | 1 | 3 | 2 | 12 | 12 | 26 | 1 | 2 | .. | 3 | 37 |
| Rheumatic Fever | | .. | .. | .. | .. | 1 | 1 | 1 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| Erysipelas | | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | 1 | .. | 2 | 3 |
| Pyæmia | | .. | .. | 1 | 1 | .. | .. | 2 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| Puerperal Fever | | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | | 6 | 9 | 6 | 21 | 4 | 6 | 9 | 19 | 3 | 18 | 18 | 39 | 7 | 8 | 7 | 22 | 101 |

Table VI.—Showing the Deaths from Zymotic Diseases in each Month in the 8 years, 1880-87.

| | January | February | March | 1st Quarter | April | May | June | 2nd Quarter | July | August | September | 3rd Quarter | October | November | December | 4th Quarter | 8 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Small-pox ...... | ... | 1 | ... | 1 | ... | 5 | 1 | 6 | 1 | ... | ... | 1 | 1 | 1 | ... | 2 | 10 |
| Measles ........ | 12 | 8 | 16 | 36 | 10 | 10 | 19 | 39 | 12 | 15 | 4 | 31 | 7 | 5 | 8 | 20 | 126 |
| Scarlatina ....... | 16 | 11 | 8 | 35 | 9 | 8 | 9 | 26 | 4 | 3 | 6 | 13 | 16 | 11 | 8 | 35 | 109 |
| Diphtheria ......... | 17 | 10 | 18 | 45 | 13 | 25 | 12 | 50 | 12 | 25 | 13 | 50 | 26 | 20 | 20 | 66 | 211 |
| Whooping-cough .. | 27 | 37 | 34 | 98 | 28 | 28 | 18 | 74 | 20 | 17 | 19 | 56 | 12 | 11 | 10 | 33 | 261 |
| Cont. Fevers Typhus ......... | 1 | ... | 1 | 2 | ... | ... | ... | ... | ... | 3 | 2 | 5 | 1 | ... | ... | 1 | 8 |
| Enteric .. ...... | 8 | 6 | 10 | 24 | 4 | 10 | 8 | 22 | 9 | 10 | 8 | 27 | 21 | 16 | 8 | 45 | 118 |
| Other........... | ... | 1 | 2 | 3 | ... | 2 | .. | 2 | 2 | 1 | 2 | 5 | ... | 1 | ... | 1 | 11 |
| Diarrhœa........... | 7 | 8 | 10 | 25 | 5 | 13 | 6 | 24 | 12 | 90 | 71 | 173 | 22 | 9 | 7 | 38 | 260 |
| Rheumatic Fever .. | ... | 4 | 4 | 8 | 3 | 2 | 3 | 8 | 1 | 3 | 2 | 6 | 1 | 3 | 1 | 5 | 27 |
| Erysipelas ......... | 5 | 7 | 1 | 13 | 4 | 3 | 4 | 11 | 4 | 3 | 3 | 10 | 6 | 5 | 5 | 16 | 50 |
| Pyæmia ........... | ... | ... | 1 | 1 | 3 | ... | 3 | 6 | 2 | ... | 1 | 3 | ... | .. | 1 | 1 | 11 |
| Puerperal Fever ... | 2 | ... | 4 | 6 | 3 | 1 | 2 | 6 | 2 | ... | 2 | 4 | ... | 2 | 1 | 3 | 19 |
| Total ............. | 95 | 93 | 109 | 297 | 82 | 107 | 85 | 274 | 81 | 170 | 133 | 384 | 113 | 84 | 69 | 266 | 1221 |

Table VII.—Showing the Deaths in each Month in the Ten Years, 1878-87.

| Month. | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | Total. | Average Temp. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 137 | 150 | 126 | 125 | 132 | 127 | 117 | 182 | 155 | 130 | 1381 | 38·9 |
| February | 126 | 119 | 129 | 118 | 108 | 118 | 124 | 151 | 185 | 120 | 1298 | 39·7 |
| March | 103 | 129 | 109 | 126 | 141 | 154 | 140 | 115 | 204 | 170 | 1391 | 41·5 |
| April | 115 | 130 | 121 | 131 | 98 | 148 | 118 | 129 | 168 | 126 | 1284 | 47·2 |
| May | 98 | 113 | 115 | 117 | 118 | 137 | 101 | 130 | 140 | 144 | 1213 | 52·7 |
| June | 109 | 84 | 97 | 106 | 103 | 139 | 114 | 101 | 121 | 119 | 1093 | 59·8 |
| July | 100 | 75 | 92 | 93 | 100 | 107 | 116 | 117 | 111 | 112 | 1023 | 62·5 |
| August | 98 | 92 | 106 | 110 | 112 | 108 | 147 | 112 | 131 | 111 | 1127 | 61·9 |
| September | 131 | 99 | 116 | 104 | 117 | 107 | 120 | 116 | 131 | 115 | 1156 | 57·5 |
| October | 103 | 82 | 85 | 109 | 100 | 104 | 125 | 97 | 105 | 136 | 1046 | 50·9 |
| November | 103 | 88 | 100 | 98 | 116 | 125 | 121 | 130 | 116 | 118 | 1115 | 42·8 |
| December | 131 | 131 | 91 | 86 | 131 | 113 | 144 | 142 | 151 | 134 | 1254 | 40·8 |
| Year | 1354 | 1292 | 1287 | 1323 | 1376 | 1487 | 1487 | 1522 | 1718 | 1535 | 14381 | — |

The average temperature is taken from the records at Greenwich for the Twenty Years, 1849-68.

Table VIII.—Showing the Deaths and Death-rate from all causes and from various causes in the 10 years, 187 8-87.

| Year. | Annual Number of Deaths. | | | | | Population. | Annual Rate per 100,000 living. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. | | All Diseases. | Zymotic Disease. | Phthisis. | Lung Disease. | Heart Disease. |
| 1878 | 1354 | 138 | 151 | 213 | 98 | 83627 | 1619 | 165 | 180 | 254 | 117 |
| 1879 | 1292 | 79 | 143 | 216 | 134 | 84648 | 1526 | 93 | 168 | 255 | 158 |
| 1880 | 1287 | 171 | 129 | 204 | 89 | 86244 | 1492 | 198 | 149 | 236 | 103 |
| 1881 | 1323 | 103 | 117 | 193 | 128 | 94860 | 1396 | 108 | 123 | 203 | 135 |
| 1882 | 1376 | 164 | 131 | 191 | 120 | 96220 | 1430 | 170 | 136 | 198 | 124 |
| 1883 | 1487 | 131 | 158 | 209 | 134 | 100430 | 1480 | 130 | 157 | 208 | 133 |
| 1884 | 1487 | 143 | 159 | 222 | 147 | 102500 | 1450 | 139 | 155 | 216 | 143 |
| 1885 | 1522 | 152 | 126 | 266 | 126 | 103930 | 1464 | 146 | 121 | 256 | 121 |
| 1886 | 1718 | 256 | 159 | 291 | 142 | 104760 | 1640 | 244 | 151 | 278 | 135 |
| 1887 | 1535 | 101 | 189 | 245 | 158 | 105520 | 1454 | 95 | 179 | 232 | 150 |
| Total .... | 14381 | 1438 | 1462 | 2250 | 1276 | .... | 1495 | 149 | 152 | 234 | 132 |

## Table IX.—Showing the Causes of Death in 1887.

| Causes of Death. | Steyning R.S.D. | Horsham R.S.D. | Petworth R.S.D. | Thakeham R.S.D. | East Preston R.S.D. | Midhurst R.S.D. | Westbourne R.S.D. | Worthing U.S.D. | Littlehampton U.S.D. | West Worthing U.S.D. | Arundel U.S.D. | Total. |  | Total both sexes. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All causes | 252 | 209 | 131 | 123 | 114 | 219 | 108 | 231 | 59 | 12 | 77 | 802 | 733 | 1535 |
| Zymotic Diseaoes | 27 | 17 | 4 | 13 | 9 | 10 | 3 | 12 | 3 | 1 | 2 | 56 | 45 | 101 |
| Phthisis | 22 | 12 | 16 | 14 | 9 | 22 | 11 | 23 | 5 | 2 | 13 | 75 | 74 | 149 |
| Disease of the Brain | 38 | 28 | 19 | 9 | 10 | 30 | 14 | 30 | 7 | ... | 5 | 101 | 89 | 190 |
| „ Heart | 17 | 20 | 17 | 12 | 17 | 16 | 6 | 33 | 6 | 3 | 11 | 73 | 85 | 158 |
| „ Lungs | 38 | 27 | 23 | 18 | 14 | 41 | 23 | 45 | 7 | ... | 9 | 145 | 100 | 245 |
| „ Digestive Organs | 14 | 8 | 6 | 4 | 4 | 11 | 7 | 12 | 4 | 1 | 5 | 32 | 44 | 76 |
| „ Urinary „ | 2 | 6 | 5 | 2 | 1 | 5 | 1 | 7 | 3 | ... | 3 | 21 | 14 | 35 |
| „ Uterine „ | 1 | ... | ... | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... | 4 | 4 |
| Childbirth | 2 | 1 | ... | ... | ... | 3 | 1 | ... | ... | ... | 1 | ... | 8 | 8 |
| Infantile Debility | 5 | 10 | 2 | 12 | 4 | 12 | 12 | 7 | 2 | ... | 3 | 34 | 35 | 69 |
| Convulsions | 6 | 5 | 8 | 2 | 5 | 4 | 1 | 7 | 4 | ... | 2 | 28 | 16 | 44 |
| Premature Birth | 10 | 12 | 2 | 3 | ... | 3 | 5 | 3 | 2 | 1 | 2 | 25 | 18 | 43 |
| Old Age | 22 | 26 | 15 | 10 | 18 | 36 | 9 | 23 | 8 | 1 | 9 | 85 | 92 | 177 |
| Accident | 11 | 1 | 2 | 4 | 4 | 3 | 1 | 2 | 3 | ... | 2 | 20 | 13 | 33 |
| Suicide | 2 | 5 | 1 | 1 | 3 | ... | 1 | 3 | ... | ... | 2 | 14 | 4 | 18 |
| Other causes | 35 | 31 | 11 | 18 | 16 | 23 | 12 | 23 | 5 | 3 | 8 | 93 | 92 | 185 |

### Table X.—Showing the Deaths from Accidents in the 10 years, 1878-87.

| Mode of Death. | Steyning |  | Horsham |  | Petworth |  | Thakeham |  | East Preston |  | Midhurst |  | Westbourne |  | Worthing |  | Littlehampton |  | West Worthing |  | Arundel |  | Total |  | Total both sexes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. |  |
| By Drowning . . . | 3 | 2 |  | 1 | 1 |  | — |  | — |  | 1 |  | — |  | — |  | — |  | — |  | — |  | 5 | 3 | 8 |
| ,, Suffocation. . . | 2 |  | — |  | — |  | — |  | — |  | — |  | — |  | — |  |  | 1 | — |  | 1 |  | 3 | 1 | 4 |
| ,, Burns & Scalds . |  | 2 | — |  | — |  |  | 1 | — |  | 1 |  | — |  | 1 |  | — |  | — |  | — |  | 2 | 3 | 5 |
| ,, Exposure to Cold. |  | 1 | — |  | — |  | — |  | — |  | — |  | — |  | — |  | — |  | — |  | — |  |  | 1 | 1 |
| ,, Being run over . | 1 |  | — |  | — |  | 1 |  | 1 |  | 1 |  |  | 1 | 1 |  | — |  | — |  | — |  | 5 | 1 | 6 |
| ,, Falls . . . . | — |  | — |  |  | 1 | 1 |  | 2 | 1 | — |  | — |  | — |  | 1 | 1 | — |  |  | 1 | 4 | 4 | 8 |
| ,, Machinery . . . | — |  | — |  | — |  | 1 |  | — |  | — |  | — |  | — |  | — |  | — |  | — |  | 1 |  | 1 |
| Total . . . . . | 6 | 5 |  | 1 | 1 | 1 | 3 | 1 | 3 | 1 | 3 |  |  | 1 | 2 |  | 1 | 2 | — |  | 1 | 1 | 20 | 13 | 33 |
| In 1878-82 . . . . | 14 | 5 | 18 | 6 | 13 | 3 | 10 | 2 | 11 | 4 | 6 | 2 | 1 | 2 | 8 | 3 | 6 | 2 | — |  | — |  | 87 | 29 | 116 |
| ,, 1883 . . . . . | 5 | 1 | 6 | 2 | 2 | 3 | 5 |  | 1 | 1 | 3 | 2 | 2 |  | 6 |  | — |  | — |  | — |  | 30 | 9 | 39 |
| ,, 1884 . . . . . | 6 |  | 4 | 2 | 4 |  | 5 |  | 3 |  | 3 | 1 | 1 | 1 | 2 | 1 | 1 |  | — |  | — |  | 29 | 5 | 34 |
| ,, 1885 . . . . . | 6 | 1 | 4 | 1 | 2 | 1 | 4 | 1 | 5 | 1 | 4 | 3 | 2 | 1 | 1 |  | 3 |  | 1 |  | — |  | 32 | 9 | 41 |
| ,, 1886 . . . . . | 5 | 1 | 5 | 3 | 1 | 1 | 4 |  | 4 |  | 7 | 2 | 2 | 1 |  | 1 | — |  | — |  | — |  | 28 | 9 | 37 |
| Total in 10 years . . | 42 | 13 | 37 | 15 | 23 | 9 | 31 | 4 | 27 | 7 | 26 | 10 | 8 | 6 | 19 | 5 | 11 | 4 | 1 |  | 1 | 1 | 226 | 74 | 300 |

Table XII.—Showing the Deaths by Suicide in the 10 years, 1878-87.

| Mode of Death. | Steyning R.S.D. | | Horsham R.S.D. | | Petworth R.S.D. | | Thakeham R.S.D. | | East Preston R.S.D. | | Midhurst R.S D. | | Westbourne R.S.D. | | Worthing U.S.D. | | Littlehampton U.S.D. | | West Worthing U.S.D. | | Arundel U.S.D. | | Total | | Total both sexes. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | |
| By Drowning ......... | ... | | ... | | ... | | 1 | | 2 | 1 | ... | | ... | | ... | | ... | | .. | | 1 | | 4 | 1 | 5 |
| „ Hanging ............ | 1 | | ... | | 1 | | ... | | ... | | ... | | 1 | | | 1 | ... | | ... | | ... | | 3 | 1 | 4 |
| „ Cutting Throat ... | ... | | 1 | | ... | | ... | | ... | | ... | | ... | | ... | | ... | | ... | | 1 | | 2 | | 2 |
| „ Shooting............ | 1 | | 3 | | .. | | ... | | ... | | ... | | ... | | 1 | | ... | | ... | | ... | | 5 | | 5 |
| „ Railway ............ | ... | | | 1 | ... | | ... | | ... | | ... | | ... | | ... | | ... | | ... | | .. | | | 1 | 1 |
| „ Falling ............ | ... | | ... | | ... | | ... | | ... | | ... | | ... | | | 1 | ... | | ... | | ... | | | 1 | 1 |
| Total... ... ... ... | 2 | | 4 | 1 | 1 | | 1 | | 2 | 1 | ... | | 1 | | 1 | 2 | ... | | ... | | 2 | | 14 | 4 | 18 |
| In 1878-82 ... ... | 12 | 1 | 5 | 2 | 4 | | 2 | 1 | 2 | 1 | 7 | 4 | ... | | 7 | | 3 | | ... | | ... | | 42 | 9 | 51 |
| „ 1883 ... ... ... | 2 | 1 | 1 | | 1 | 1 | 2 | | 2 | | ... | | | 1 | 1 | 1 | 1 | | ... | | ... | | 10 | 4 | 14 |
| „ 1884 ... ... ... | 1 | 1 | 2 | 1 | 2 | | 1 | | ... | | | 1 | ... | | 2 | 1 | ... | | ... | | ... | | 8 | 4 | 12 |
| „ 1885 ... ... ... | | 1 | ... | | 2 | | 2 | | | 2 | ... | | 1 | | 3 | | 1 | | ... | | ... | | 9 | 3 | 12 |
| „ 1886 ... ... ... | 2 | | 1 | | 1 | | ... | | ... | | 4 | | 2 | | ... | | ... | | ... | | ... | | 10 | | 10 |
| Total in 10 years. ... | 19 | 4 | 13 | 4 | 11 | 1 | 8 | 1 | 6 | 4 | 11 | 5 | 4 | 1 | 14 | 4 | 5 | | ... | | 2 | | 93 | 24 | 117 |

TABLE XII.—Showing the distribution of the population, as to age and sex in West Sussex and in other districts in 1881.

| | | PROPORTION TO 100,000 PERSONS | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 0-5 | 5-15 | 15-25 | 25-45 | 45-65 | 65 & upds. | All ages. |
| Combined District........ | M | 6786 | 12443 | 8635 | 11353 | 7644 | 3060 | 49921 |
| | F | 6803 | 11852 | 8235 | 12317 | 7722 | 3150 | 50079 |
| Four Urban Districts .... | M | 6140 | 11914 | 7939 | 10524 | 5911 | 2280 | 44708 |
| | F | 6189 | 11249 | 11560 | 14723 | 8152 | 3419 | 55292 |
| Seven Rural Districts...... | M | 6936 | 12566 | 8796 | 11546 | 8046 | 3241 | 51131 |
| | F | 6946 | 11922 | 7464 | 11758 | 7622 | 3087 | 48869 |
| Leeds and Birmingham .... | M | 7133 | 11290 | 9180 | 13352 | 6249 | 1308 | 48512 |
| | F | 7241 | 11506 | 10095 | 14008 | 6942 | 1696 | 51488 |
| England and Wales........ | M | 6767 | 11437 | 9165 | 12472 | 6760 | 2062 | 48663 |
| | F | 6788 | 11461 | 9605 | 13455 | 7514 | 2514 | 51337 |

Table A.—Showing the Deaths during the year 1887, in the Com
Localities, and showing also the Population of

| Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. | Population at all ages. | | Registered Births. | Mortality from all Causes at Subjoined Ages. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Census 1881 | Estimated to middle of 1887 | | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 60. | 60 and upwds. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Steyning R.S.D. | 16325 | 18400 | 470 | 243 | 45 | 17 | 17 | 14 | 64 | 86 | Under 5<br>..........<br>5 upwd |
| Horsham R,S.D. | 15426 | 16700 | 452 | 220 | 47 | 15 | 12 | 8 | 49 | 89 | Under 5<br>..........<br>5 upwd |
| Petworth R.S.D. | 9595 | 9550 | 264 | 131 | 16 | 8 | 6 | 9 | 29 | 63 | Under 5<br>..........<br>5 upwd |
| Thakeham R.S.D. | 8285 | 8250 | 245 | 123 | 19 | 13 | 6 | 6 | 26 | 53 | Under 5<br>..........<br>5 upwd |
| East Preston R.S.D. | 8025 | 8740 | 241 | 137 | 10 | 5 | 10 | 12 | 28 | 72 | Under 5<br>..........<br>5 upwd |
| Midhurst R.S.D. | 13933 | 14700 | 345 | 219 | 23 | 18 | 10 | 14 | 50 | 104 | Under 5<br>..........<br>5 upwd |
| Westbourne R.S.D. | 7420 | 7600 | 225 | 108 | 25 | 7 | 1 | 9 | 25 | 41 | Under 5<br>..........<br>5 upwd |
| Worthing U.S,D. | 10976 | 13350 | 327 | 222 | 33 | 18 | 13 | 15 | 56 | 87 | Under 5<br>..........<br>5 upwd |
| Littlehampton U.S.D. | 3926 | 4180 | 116 | 52 | 8 | 3 | 2 | 5 | 12 | 22 | Under 5<br>..........<br>5 upwd |
| West Worthing U.S.D. | 689 | 1300 | 18 | 12 | 1 | 1 | — | — | 6 | 4 | Under 5<br>..........<br>5 upwd |
| Arundel U.S.D. | 2748 | 2750 | 64 | 70 | 8 | 7 | 3 | 3 | 27 | 22 | Under 5<br>..........<br>5upwds |
| Totals .................. | 97348 | 105520 | 2767 | 1537 | 235 | 112 | 80 | 95 | 372 | 643 | Under 5<br>..........<br>5 upwd |
| Deaths occurring outside the district among persons belonging thereto..... ..................... | | | | 33 | — | — | — | 4 | 4 | 25 | Under 5<br>..........<br>5 upwd |
| Deaths occurring within the District among persons not belonging thereto... ........... ..... | | | | 71 | 8 | 4 | 1 | 3 | 21 | 34 | Under 5<br>..........<br>5 upwd |

itary District of WEST SUSSEX. classified according to Disease, Ages
alities, and the Births therein during the year.

IORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.

| Scarlatina. | Diphtheria. | Croup (not "spasmodic") | Whooping Cough. | Cont Fevers: Typhus. | Cont Fevers: Enteric or Typhoid | Cont Fevers: Other or Doubtful | Diarrhœa and Dysentery. | Cholera. | Rheumatic Fever. | Erysipelas. | Pyæmia. | Puerperal Fever. | Ague. | Phthisis. | Bronchitis, Pneumonia, & Pleurisy. | Heart Disease | Injuries. | Other Diseases |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| | | | | | | | 15 | | | 1 | | | | | 12 | 1 | 2 | 31 |
| 1 | 2 | | | 2 | 3 | | 1 | | | | 2 | | | 21 | 24 | 16 | 11 | 98 |
| 2 | 3 | | | | | | 4 | | | | | | | | 7 | | | 46 |
| 2 | 1 | | | | 3 | 2 | 1 | | | | | | | 13 | 20 | 21 | 7 | 88 |
| 1 | 1 | | | | | | | | | | | | | | 6 | | | 16 |
| | | | | | | | 2 | | | | | | | 16 | 17 | 17 | 3 | 52 |
| 1 | 1 | | 1 | | | | | | | | | | | | 9 | | | 20 |
| | 3 | | | | 4 | | 2 | | | 1 | | | | 14 | 9 | 12 | 5 | 41 |
| | | | | | | | 4 | | | | | | | | 1 | | | 10 |
| 1 | 2 | | | | 1 | | 1 | | | | | | | 10 | 18 | 18 | 7 | 64 |
| | 1 | | 1 | | | | 1 | | | 1 | | | | | 10 | | 1 | 25 |
| | | | 1 | | 1 | | | | 2 | | | | | 22 | 31 | 16 | 2 | 102 |
| | | | | | | | | | | | | | | | 9 | | 1 | 22 |
| | | | | | 2 | | 1 | | | | | | | 11 | 14 | 6 | 1 | 41 |
| 1 | 2 | | | | | | 4 | | | | | | | | 18 | | 1 | 25 |
| | 3 | | | | | | | | | | 1 | | | 23 | 27 | 33 | 4 | 80 |
| | | | 1 | | | | 1 | | | | | | | | | | 1 | 7 |
| | | | | | | | | | | | | | | 5 | 5 | 6 | 2 | 23 |
| | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | 1 | | | | | 2 | | 3 | | 4 |
| 2 | | | | | | | | | | | | | | | 3 | | 2 | 8 |
| | | | | | | | | | | | | | | 12 | 4 | 10 | 2 | 27 |
| 7 | 8 | | 3 | | | | 29 | | | 2 | | | | | 75 | 1 | 8 | 212 |
| 4 | 11 | | 1 | 2 | 14 | 2 | 8 | | 3 | 1 | 3 | | | 149 | 169 | 158 | 44 | 620 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 2 | 7 | 1 | | 23 |
| | 1 | | 1 | | | | 1 | | | | | | | | 2 | | | 6 |
| | | | | | 1 | | | | | | | | | 6 | 7 | 12 | 2 | 31 |

Table B.—Showing the New Cases of Sickness coming to the knowled
District of WEST SUSSEX clas

| Names of Localities. 1 | New Cases of Sickness in Persons Belo | | | | | | |
|---|---|---|---|---|---|---|---|
| | 12 | Smallpox 13 | Measles 14 | Scarlatina 15 | Diphtheria 16 | Croup (not spasmodic) 17 | Whooping Cough 18 |
| Steyning R. S. D. ... .. | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Horsham R. S. D. ... .. | Under 5 | | 3 | 5 | | | |
| | 5 upwds. | | 4 | 8 | 1 | | |
| Petworth R. S. D. ... .. | Under 5 | | 2 | 3 | | | 2 |
| | 5 upwds. | | 8 | 14 | | | |
| Thakeham R. S. D. ... .. | Under 5 | | 5 | 2 | | | |
| | 5 upwds. | | 11 | 9 | 1 | | |
| East Preston R. S. D. ... | Under 5 | | 14 | 3 | | | 5 |
| | 5 upwds. | | 12 | 4 | | | 1 |
| Midhurst R. S. D. ... ... | Under 5 | | | 1 | 4 | | |
| | 5 upwds. | | 3 | 5 | 1 | | 1 |
| Westbourne R. S. D. .. | Under 5 | | | | | | 1 |
| | 5 upwds. | | | | 1 | | |
| Worthing U. S. D. .. .. | Under 5 | | | 4 | | | 1 |
| | 5 upwds. | | 1 | 9 | | | |
| Littlehampton U. S. D. ... | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| West Worthing U. S. D. .. | Under 5 | | | | | | |
| | 5 upwds. | | | | | | |
| Arundel U. S D. ... ... | Under 5 | | 1 | | | | |
| | 5 upwds. | | | | | | |
| Totals .............. ..... | Under 5 | | 25 | 18 | 4 | | 9 |
| | 5 upwds. | | 39 | 49 | 4 | | 2 |

Sources of Information : In Workhouses and Workhouse Infirmaries
As Out Patie

Medical Officer of Health during the year 1887, in the Combined Sanitary
ording to Localities and Diseases.

HE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS

| ers. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other or Doubtful | Diarrhœa and Dysentery | Cholera | Rheumatic Fever | Erysipelas | Pyæmia | Puerperal Fever | Ague | Other Diseases, such as Chicken Pox or Pneumonia which the Medical Officer of Health thinks well to record. |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | |
| | 2 | | | 1 | | | | |
| | 3 | | 1 | 2 | | | | |
| | 2 | | | | | | | |
| | 12 | | | | | | | |
| | 5 | | | | | | | |
| | 15 | | | 1 | | | | |
| | | | | | | | | |
| | 2 | | | 1 | | | | |
| | 5 | | | | | | | |
| | 15 | | | 2 | | | | |
| | 2 | | | | | | | |
| | 10 | | 1 | 3 | | 1 | | |
| 1 | 2 | | | | | | | |
| 5 | 3 | | | 1 | | | | |
| | 3 | | | | | | | |
| | 5 | | | 4 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 2 | | | 1 | | | | |
| | 3 | | | | | | 1 | |
| 1 | 23 | | | 2 | | | | |
| 5 | 68 | | 2 | 14 | | 1 | 1 | |

ong the Out-door Paupers, 3251. As In-patients of Hospitals, 136.
pitals, 1802.